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HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Published by the American Medical Association
535 N. Dearborn St., Chicago

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Successes and Failures of Surgery

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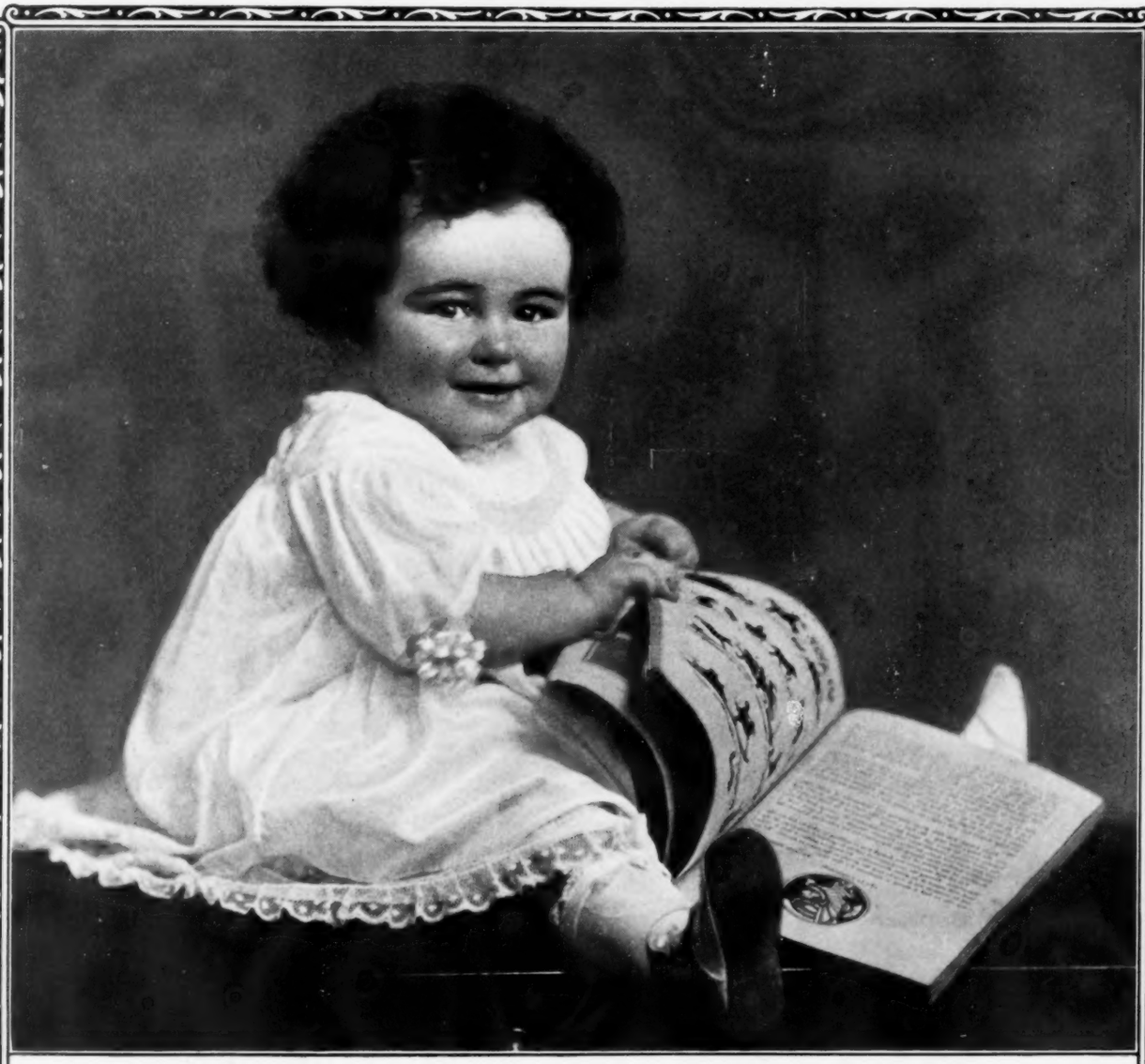

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HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

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VOLUME 3 — FEBRUARY, 1925 — NUMBER 2

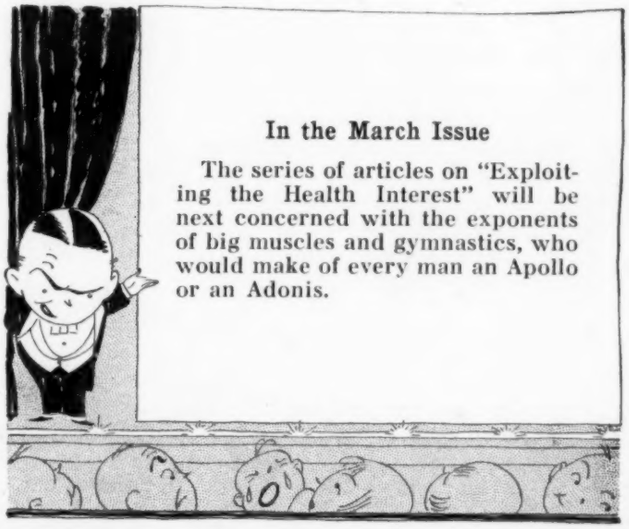
THIS MONTH'S CONTRIBUTORS

ERNEST HAROLD BAYNES, the naturalist, is widely known as a writer, lecturer and leader in humane society movements. This month, he begins a series of four articles on "The Truth about Antivivisectionists." To an early issue of HYGEIA, he contributed an interesting article, "Which Shall Live—Men or Animals?" DR. FRANCES SAGE BRADLEY, writer on rural health problems and regular contributor to HYGEIA, is now connected with the Montana state board of health. Her work has made her familiar with the problems of country dwellers in the East, South and West.

VELMA WEST SYKES conducts the women's department in a group of rural publications and is a free lance contributor to popular magazines on subjects of interest to mothers. DR. DAVID CHEEVER of Harvard medical school concludes in this issue his discussion of "Successes and Failures in Surgery." His papers are an outgrowth of a series of public lectures on medical and health problems given by Harvard University professors.

DR. HOMER K. NICOLL is a middle western physician who has given special attention to the health problems of industry. DR. ETHAN ALLEN GRAY is a practicing physician, with a special interest in tuberculosis.

An intimate chronicle of his adventures in fifty years of helping to protect the United States from disease is given by H. R. CARTER, assistant surgeon-general of the U. S. Public Health Service. His account concludes with this issue. DR. WILLIAM B. SHARP is professor of bacteriology and preventive medicine at the University of Texas medical school. DR. W. B. JAMESON is connected with an eastern state sanatorium for tuberculosis.



In the March Issue

The series of articles on "Exploiting the Health Interest" will be next concerned with the exponents of big muscles and gymnastics, who would make of every man an Apollo or an Adonis.

Contributions to HYGEIA *are considered, and, if accepted, paid for. Stamps for the return of unaccepted manuscripts should be enclosed. All communications should be addressed to* HYGEIA, *535 North Dearborn Street, Chicago, Illinois.*

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"STEP RIGHT UP, LADIES AND GENTLEMEN"

IN THE early days, before newspapers and magazines became so plentiful, the master charlatan was compelled to take his stand in the market place. There with the aid of his loud-voiced, fantastically costumed assistants, he pulled teeth and dispensed fake ointments and medicines. The quack is still dependent upon loud proclamation for the sale of his stock, but his methods are somewhat more subtle and refined than his eighteenth century predecessor, portrayed here in the painting by Maulpersch.

The Truth about Antivivisectionists

ERNEST HAROLD BAYNES

TO ONE who is not afraid of being hated, and who has a sense of humor, hatred is one of the most amusing emotions to which human beings can give expression. Having lived a rather peaceful life, I knew practically nothing about this until recently, when, after long and careful study of the antivivisectionists, I called the attention of the public to their methods of obtaining money from the ignorant and credulous. The antivivisection leaders, representing societies composed of people supposed to be much more kind and humane than the rest of us, retaliated with a hatred that was as laughable as it was bitter.

The *New York Times,* speaking of the antivivisectionists recently, referred to me as "the most hated of their opponents." Perhaps that is why I have had more fun with them than any one else has had.

The other day I met a lady in the Back Bay, Boston. We had known one another slightly for years and nothing but friendly words had ever passed between us. She approached with a smile and my hand was already on the rim of my hat when she remembered that I was in favor of vivisection. Did you ever see the face of a mink in a trap? Well, her face became as nearly like that as it is possible for a human being to look, and at the same instant she made a wide detour and drawing her skirts aside, she cried: "Oh no! Oh no! I don't approve of you! I don't approve of you!" As I looked at that ridiculous expression of animosity, the words which danced to my lips were: "Thank God for that." But I simply smiled and walked along.

Sometimes I receive more vigorous expressions of disapproval. For example, I had just delivered a lecture on vivisection in a church in San Diego, when a large, raw-boned woman rushed to the front, shook a very capable-looking fist in my face and shrieked, "You're a dirty old brute."

On her way to the door she whirled about to repeat the compliment, and on reaching the door, she paused once more to shake her fist and let me know that her opinion of me had not changed a bit in the last ten seconds. That time I laughed aloud, but not so much at the "lady" as at a scientific friend of mine who had assured me just before the lecture that the population of San Diego was so intelligent that he doubted if there was any one in the city who would not agree with me on the subject of vivisection.

The Lady in the Fur Coat Speaks

A little later, in New York, as I was leaving the Town Hall after making an address, I saw a very pretty woman forcing her way toward me as if to offer congratulations. But she did something much more amusing. Twisting her pretty face until it looked like nothing human, she exploded: "Oh, when you come to die! Oh—when—you—come—to—die! I've always wanted to see a brute in human form; now I've seen one. Ough!"

And with a look and a gesture intended to register withering contempt, she drew aside a long fur cloak which had cost more pain than is suffered by all the animals in the Rockefeller Institute in a year. I suppose that my part was to wither on the spot, but I couldn't play it, which quite spoiled the intended effect. Dr.

L. H. Peters was with me, and we simply looked at one another as if to learn why a naturally good-looking woman could make herself so ridiculous.

But laughable as these expressions of hatred are in themselves, they are really manifestations of a serious danger. Probably not a day passes without some deaths occurring as the result of antivivisection propaganda—deaths directly due to misinformation which has led to contempt of scientific preventive medicine. The complete success of the antivivisectionists would mean disastrous loss of life. This fact is realized most thoroughly by those having the greatest responsibility for the health of the people.

The Friends of Medical Progress

In a ringing speech before the American Public Health Association at its annual convention in Boston a few months ago, Dr. George E. Vincent, president of the Rockefeller Foundation, referred to a new society, "The Friends of Medical Progress." "The world has been waiting for this society," said Dr. Vincent, "and it must be backed to the limit or the medical profession in this country will be swamped by the cults and societies which are ranged against it."

The Friends of Medical Progress is engaged in the very serious work of preventing ignorance and charlatanism from destroying human life. It is not my purpose in this article to recount in detail the efforts this society is making to block the attempts continually being made by antivivisectionists and others to secure legislation that would be fatal to thousands of people. Neither do I intend at this time to tell of the campaign by which the society hopes to make better known the nature and importance of scientific medicine. I will simply tell some of my personal experiences with the antivivisectionists during the campaign which led up to the organization of "The Friends of Medical Progress."

Did you ever see a mischievous boy throw a stone into a hornets' nest? If so, you can form some idea of what happened when I exposed the antivivisection hoax in an article entitled "The Truth about Vivisection." It appeared in a magazine that reached five million people, and with no more warning to the antis than the boy gave to the hornets. And much like the little insects themselves, out flew the antis, hysterically furious and prepared to sting everything and everybody who had dared to show that they weren't "playing cricket."

Decides to Investigate Cruelty Charges

The magazine article that I have mentioned was written after very careful study of the subject. For years the antivivisectionists had been begging me to write and lecture in behalf of their cause; for years they had been sending me their pamphlets, with reiterated statements that vivisection was useless and that it involved the most fiendish torture of animals.

Since I was the president of a humane society and holding office in half a dozen other organizations devoted to the welfare of animals, it was my business to know whether these charges were true or not. If they were true it would become my duty to take action against those guilty of wilful and useless cruelty. An investigation seemed to be in order and my lecture tours, covering practically every state in the union, gave me a wonderful opportunity to investigate.

From coast to coast I visited the research laboratories and medical schools, inspected the animals, witnessed hundreds of experiments, studied the men who performed them and did my best to get an intelligent idea of why they were performed. I found that animal experimentation, of which vivisection is a comparatively small but very essential part, so far from being useless, is the very foundation of medical progress. I found that it was responsible for the greater part of the tremendous advance made in all the preceding ages. I learned on the best possible authority—that of our greatest physicians and surgeons, the men in charge of great and successful hospitals, the surgeons general of the allied armies—that vivisection had been the means of saving millions of human lives through the conquering of disease. On similar authority I learned that in all human probability further advances against the still unconquered diseases would be made as the result of experiments on living animals. So much for the antivivisectionists' contention that such experiments were useless.

Found Animals Treated as Humans

I found the contention that the animals used in these experiments were ruthlessly tortured

was not founded on fact. In the main, they are well housed and cared for, and during experiments likely to cause pain they are almost invariably under an anesthetic. The treatment they receive compares very favorably with that given to human patients in the best hospitals.

In short, I found that the stories printed in the antivivisection magazines and pamphlets, describing the "horrors," "tortures," "agonies," "atrocities," perpetrated by the "inhuman wretches," "bloody butchers," "arch fiends" and "devils incarnate" in the "dens of infamy," "hells of torment," "halls of agony," to gratify their "morbid curiosity," "blood lust," "selfish desire to inflict pain," "insatiable appetite for cruelty" were one and all either the ravings of the mentally unbalanced or deliberate attempts to deceive the public.

There are no atrocities, there are no devils incarnate, there are no halls of agony, connected with medical research in this country—probably not in any country.

Having satisfied myself that the research men were not at all what the antivivisection leaders represented them to be, I thought it would be interesting to see if these leaders had formed any more accurate estimate of themselves. I found that there was almost invariably a mental "kink" that was sure to manifest itself to any one having even a slight knowledge of psychology. The majority I found to be morally defective. Hardly one of them but would stoop to falsehood, if falsehood promised to advance the cause of antivivisection, and many of them were guilty of slander, libel, perjury, forgery and at least attempted bribery. With such weapons they were attempting to hoax the public to support a cause that could no longer be supported by truth and honesty.

In a Chamber of Horrors

A favorite form of deception is an exhibition purporting to show what is done to animals in the research laboratories and medical schools. No attention is paid to the facts.

Taxidermists are employed to mount animals stretched on tables, held in position by barbarous devices and mutilated according to the vivid imaginations of the antivivisection leaders. The faces of the animals are usually ridiculously distorted, with wrinkled brows and protruding eyeballs, to indicate the intensity of the torture to which they are being subjected.

Knowing the ignorance and credulity of the people who are duped by such exhibits, the "designers" are not in the least concerned because no such stupidly useless mutilations are ever performed, or because no animals mutilated in the ways illustrated by some of the exhibits, could live for a moment to suffer the agonies they are supposed to be suffering.

Such a chamber of horrors was for a long time staged in Philadelphia, the home of the

American Antivivisection Society. I visited it on several occasions, and of course it was just as dishonest as it was gruesome. The credulous shuddered and gave up their money as it was intended that they should. Those who knew anything about animal experimentation, of course, laughed at the absurdity of the whole show.

One day there walked into the exhibition a young lady who was unusually interested. After viewing the horrible exhibits, she said to the female attendant:

"Surely animals are not tortured in this way? They are given an anesthetic, are they not?"

"Oh, no," said the attendant. "They are never given anesthetics. They are cut up and torn apart just as you see them, and suffer the tortures of the damned."

The young lady seemed horrified at this revelation, and presently started to leave the exhibition. As she was opening the door the attendant said: "May I ask your name?"

"Certainly" said the young lady, "I am Miss Blank."

"And your address?"

"Johns Hopkins University, Baltimore. I anesthetize all the animals used in X——— Laboratory." Then she walked out, leaving the attendant to her thoughts.

Curare Almost Never Used

Rather early in my investigations I looked into the question of curare, a drug frequently referred to in antivivisection literature and described as a means of making an animal incapable of motion, while increasing its sensitiveness to pain. As a matter of fact it does not increase the pain, but it does not diminish it, at least for a long time, and its action is substantially as described by the antis.

However, when I came to investigate, I found that it was a rare drug, difficult to obtain, seldom

used, and never for the purpose described by the antivivisectionists. At the Harvard medical school it has been used about three times in the past twelve years. At the Rockefeller Institute and many other American laboratories it is never used at all. The same is true of English laboratories. Dr. Walter B. Cannon, of the Harvard medical school, one of our most distinguished physiologists, thus explains the circumstances under which it is necessary to use curare.

"The need for using curare arises when an analysis is to be made of the effects of nerve stimulation on the smooth muscle of blood vessels. The nerve fibers governing these vessels are in the same nerve trunk with fibers acting on skeletal muscle. It is only possible, therefore, to study the action of the nerves on blood vessels, by excluding the effects on the muscles of the skeleton. Curare will do this without interfering with nerve impulses passing to the vessel walls. There are other experiments, on the effects of respiration, on the circulation, the expansion of the lungs, that require exclusion of the natural respiratory acts of the animal. Here, again, curare is used, and artificial respiration is given."

The antivivisectionists go on referring to the use of curare in experiments by Claude Bernard in France without informing their readers that these early experiments were made more than half a century ago, and have no more application to modern laboratories than tallow dips have to the lighting of New York City.

In the rare instances in which this drug is used in vivisection, it is given with a general anesthetic such as urethane, which renders the animal incapable of any feeling whatever. It was not on honest grounds then that antivivisection leaders continued to repeat in various forms the statement that our physiologists give curare in order to render a dog motionless and then proceed to torture it.

And this reminds me of an exhibition given by the New York antivivisectionists to illustrate the "frightfulness" of vivisection. Among the visitors was Dr. Walter B. Cannon himself. The lady attendant, not knowing who he was, led him around the chamber of horrors and gave him a most entertaining lecture. Finally, they stopped before a picture showing a dog "in frightful agony" and rendered motionless by curare.

"But," said Dr. Cannon quietly, "that dog would die at once. If he were really under the influence of curare as there represented, he would require artificial respiration in order to keep him alive, and there is nothing in the picture to suggest that he is getting it."

The lady drew herself up to her full height, raised her eyebrows and said severely: "It seems to me that you want to go into this matter rather deep."

I gave special attention to antivivisection "literature" which I found to be both amazing and amusing. Every pamphlet was written in a way to mislead sentimental people who never think for themselves. Some there were whose contents at first glance seemed to show that many great and competent judges were opposed to vivisection. I decided to find out how competent these judges were, and whether they had really expressed the opinions attributed to them.

There was one such pamphlet entitled, "Vivi-

"Great Minds" Ignorant of Laboratory

section from the Viewpoint of Great Minds." It gave the views of about 260 men and women, great and near great. It was evident that all history had been raked for this collection. Bacon was there—even Plato and Cicero, though what these gentlemen could have known of modern vivisection, it was hard to conceive, as their remarks apparently had been made during the time they walked in the flesh, and had not come through a "medium."

I went over the list carefully, and then had two other careful people check up my findings. None of us could discover the name of a single man or woman who claimed to have seen an experiment on animals—not a single one who claimed to have been inside a laboratory. On what then had these people based their opinions on vivisection? Evidently on statements in the literature sent to them by antivivisectionists, and which they had accepted at their face value.

For example, Cardinal Newman, referring to statements concerning alleged cruel experiments on animals, says: "Does it not sometimes make us shudder to *hear tell* of them?"

One of the revelations in that pamphlet came from the statement of Thomas Carlyle that as a boy he had been shocked by the account of Magendie's atrocities, which no doubt would include the yarn about the dog which threw its paws around the neck of Magendie, the vivisector, begging for mercy. Caryle was born in 1795. This yarn, spun from falsehood of course in the beginning, has apparently been doing duty for about 150 years, and is to be found in current antivivisection literature, where it is presented without date and with nothing to indicate that it is not an account of something that happened last week.

It would be interesting, not to say distressing, to know how many kindly hearts had been tortured by that cunningly written story, and how much money that story had wrung from the pocket books of gentle people who sacrificed their own comfort to prevent suffering which existed only in that and similar stories, concocted by antivivisection leaders.

[*Part II of Mr. Baynes article will appear in the March issue.*]

The Honest-to-Goodness American Child

FRANCES SAGE BRADLEY

III

IF YER lives on yan side o' the mounting, hit'll be lucky fer yer baby ter come atween June an' October. Otherwise, spring freshets, fall rains or winter storms may t'ar up roads, bridges, culverts an' things, an' the doctor be onable ter git to yer.

Yer min' when Callie Coggins war confined, hit war midwinter. The creeks hed riz an' the roads war plumb apast travellin'. The doctor war four days a gittin' to Lum's cabin an' he foun' things in mighty bad shape. Callie war havin' fever an' the baby hed come wrong end fust with one shoulder out o' j'int an' ez black ez yer hat. The doctor says that arm will allus be withered an' paralyzed like the kaiser's. I see whar Lum Jr. will not foller his poppy's callin! Hit teks two good arms ter be a miner.

Lum air a mighty good man. He done all he could fer Callie an' the baby, but he didn't know, an' nuther did the men boa'ders. They'd come home nights, mek ther bread an' coffee an' fry ther meat, then set aroun' the fire an' wonder how they could git the doctor across ole Tempestu'us. Hit war a roarin' torrent.

Creek Was on a Rampage

Nobody could ford thet creek when she war on the rampage, an' nothin' but time could mek her go down, so they'd end by rollin' up in ther quilts an' snorin' on the flo' in one room while Callie an' Lum an' the little cryin' baby waited in the nex' fer help.

Roxie Hancock knowed in reason she couldn't git no doctor off on Turkey Knob, so she rid horseback thirty mounting miles ter git ter her mommy, but she died afore morning.

Judy Cagle's own mommy war dead, but her man hitched up the mule an' jolted her in his ole timber wagon through the brakes ter his folks in the nex' county. He mout a saved hisself the trouble fer he buried his wife an' her unborn baby the nex' day.

When Junie Jarrett war in labor, poor Po' run down the mounting like a scared rabbit, jumpin' rocks an' ruts as he pulled on his pants, but when him an' the doctor got home, Junie an' the twins war dead.

An' they tell me hits jes' ez bad in the low country, jes' not doctors enough ter give a woman a livin' chance, an' the ole grannies mek a body do sech foolish things.

Yan side o' the mounting

Mebbe it would 'uv been better if Onie Bryson an' her twins had gone the same way. She an' Zeb war only kids when they run away an' got married, an' the babies come a few weeks after. With Onie's fust pain, Zeb took out for the doctor, an' seems like he haint foun' him yit. Some Negroes took in Onie an' the babies, gave them food, shelter an' quinin fer the malaria that racked the po' girl's bones. They're still waitin' for Zeb.

Widow Hanson lived on the edge of the swamp up in a cache built on stilts. She war chock full o' malaria an' tuk so much quinin that the baby come ahead o' time, jes' a few weeks after brother Hanson died. The house war standin' in water, an' since it war midnight, she couldn't send the kids out fer help, so little Joe an' Jennie did what they could for their mammy an' the baby. He did'nt live long, but I reckon nobody is grievin', for she already had more mouths 'n she could feed.

Jake Has 24 Children

Mebbe if we country women had doctors an' nurses an' all the help of women in the city, we would have better luck with our babies, but I don't know how we'd ever raise 'em all. We have six an' eight an' ten children an' that makes a right sizable family for poor folks these days.

Jake Cagle down in the cove has had twenty-four children by his three wives. Somebody asked him how he managed to support so many. Jake spit beyond the stump and said, "Lawd, lady I don't suppo't them, they suppo'ts me."

EXPLOITING THE

IV. Modern Magic—More

LAST month this department gave some facts regarding the food fads of Eugene Christian and G. H. Brinkler, two self-styled food experts who will—for a consideration—cure people they never see of conditions they know nothing about. This month we will discuss briefly four more individuals or concerns that exploit the health interest as experts in dietetics.

Tilden's Health School

In the great open spaces of Colorado there has flourished for some years one Dr. J. H. Tilden, who has conducted until recently what is known as the "Tilden Health School." Dr. Tilden, it seems, was born in 1851 and in 1872 received a diploma from the Eclectic Medical Institute of Cincinnati.

Aside from the fact that some twenty-four or more years ago he patented a "tampon adjuster," Dr. Tilden seems to have appeared but little in the public eye until he started a small magazine called *A Stuffed Club*, a "magazine of protest." The name of this was later changed to *Philosophy of Health*.

Under both names the magazine has been used by Tilden as an advertising medium for getting patients both on the mail order plan and in person. It has also been used to exploit other publications that Tilden has for sale. As Tilden put it to subscription agencies in *A Stuffed Club* for March, 1908: "We are not running a magazine for glory, we are out for the dough."

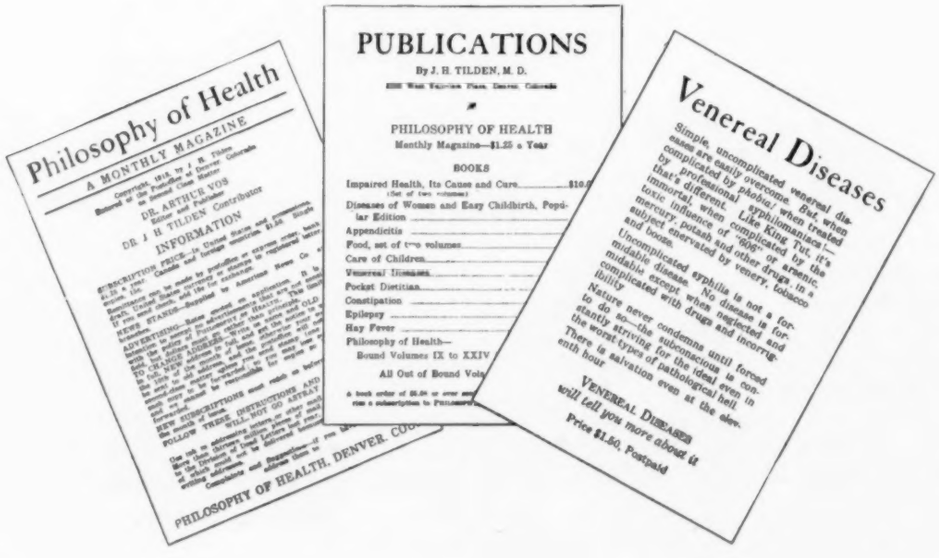
According to the theories of Dr. Tilden: Every disease is due to toxemia; toxemia is due to enervation; enervation is due to improper eating. As a corollary, by eating according to Dr. Tilden's suggestion, one may be cured of anything from cancer to smallpox, from soft corns to freckles.

"Turkey dinners or meat eating" by children who have been "enervated" by improper food, says Dr. Tilden, "will precipitate an endemic of scarlet fever, diphtheria, tonsillitis, measles, whooping cough, kidney disease, gastric fever, rheumatism, and pneumonia or other lung troubles."

Tuberculosis, according to Tilden, is "not a germ disease; the germs are an aftermath"; in fact, "to recognize germs as the cause of disease is to handicap progress in the lines of developing a true knowledge of the etiology of disease."

"I have proved often enough that smallpox is not contagious," says Dr. Tilden and, naturally, he considers vaccination a medical delusion.

Rabies (hydrophobia), according to our Denver friend, "is a psychical disease created by Pasteur institutes." Presumably, when rabies develops in one of the lower animals that has been bitten by a mad dog this animal has been mentally debauched by some


Philosophy of Health
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Some pages (reduced in size) from the Philosophy of Health, the house organ of the Tilden Health School.

HEALTH INTEREST

Fallacies of the Food Faddist

Pasteur institute and merely thinks that he is sick, and dies a-thinking.

Of typhoid and pneumonia Dr. Tilden holds equally unusual opinions:

"It is said that a special germ causes typhoid and another special germ causes pneumonia. It can be proved that the subjects of both these diseases have autotoxemia, established by wrong life, to such a degree that their digestions are impaired, and decomposition is going on in the intestines, adding a septic poison to the toxemic."

In fact, Dr. Tilden would, apparently, cast the entire science of bacteriology into the discard. He says that "the germ theory is a highly wrought and overworked plausible fallacy, which is evolved to please the sensual, licentious, and voluptuous spirit of the age." All of this, of course, leads up to the suggestion that the sick should purchase one of the numerous books or pamphlets for sale by Dr. Tilden and his mail order course.

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A COMMON LAW TRUST

This Certifies that

is the holder of ... Beneficial Interests in the NATURAL HEALTH SCHOOL, fully paid and non-assessable, subject to the declarations of Trust creating said NATURAL HEALTH SCHOOL, dated August 1, 1919 and recorded in Chicago, County of Cook, State of Illinois, and transferable only on the books of the Trustees in person or by attorney upon surrender of this Certificate properly endorsed.

In Witness Whereof, the Trustees have issued this Certificate on this ... day of ... A.D. 19..

$100

Of course, Yergin's "school" issued diplomas! Here's a greatly reduced reproduction of these works of art.

"Medicine and religion," says Dr. Tilden, "have always depended upon the influence of fear to hold the people's patronage."

Now Are Two Tilden Health Schools

In the November, 1924, issue of the *Philosophy of Health,* Tilden announced that he had sold his so-called health school and magazine to three Cincinnati men: Dr. Arthur Vos, Andrew Jergens, Jr., and Frank Adams. Tilden assigned as his reason for the sale the desire that his "message reach more people" than was possible under his personal management, and, as he put it, "it is the consensus of opinion that I have earned retirement."

This was in November, 1924. A month later Tilden was notifying his "old friends" that he "would get into the writing game again." Apparently he retired only in a Pickwickian sense. It seems that when he sold his "school" and magazine he expected to be "retained in an advisory capacity." The new management, however, seems soon to have made it plain that Tilden's room was preferred to his company.

Hence the plan, announced by Tilden early in December, to commence publishing a new magazine, *Dr. Tilden's Health Review and Critique* and to continue his mail order medical practice "with perhaps a few personal consultations."

Evidently from now on there will be two Tilden "Health Schools," one conducted by the Cincinnati group and the other by Tilden himself. As financially successful fads are nearly always dependent for their success on the personal equation, it is our guess that Tilden, unless legally restrained from his new venture, will soon leave the enterprising Cincinnatians holding the bag.

Yergin's Natural Health School

Milo E. Yergin, who sometimes puts "Dr." before and occasionally "D.O., D.C.," after his name, has been in the food fad business for many years.

A few years ago Yergin was conducting the "National Health League Sanitarium" at Champaign, Ill., and, in connection with it, the "National Health League Institute" and the "National Health League Food Plant."

Then there was Yergin's "Institute of Reactive Therapeutics" which held forth in Chicago and which sold Yergin's "Home Study Course of Structural Dietetics" for the ridiculously low price of $25, for which $100 had been usually charged. This same course was also advertised

for a time from Kidder (suggestive name), Missouri.

Yergin has not been reticent about his alleged educational qualifications. According to his advertising, he "has spent fully fourteen years in the various schools of medicine in post-graduate work," distributed variously in the "Homeopathic, Eclectic, Physiomedical and Chiropractic Schools," with six years in the "Allopathic or regular" school. Yergin's accomplishments are wide: He has been a vegetarian chef and a "faculty member of the National School of Chiropractic"; he "is well versed in hydrotherapy" and "has a practical knowledge of osteopathy and spondylotherapy."

Some years ago Yergin was in Nashville, Tenn., and the local papers discussed "the broad plans" that were being laid for his "wide and effectual distribution of the products of the League Food Plant." It seems that it was the plan to make Nashville the headquarters of the League and the "home of the Health Food Factory."

In 1920, Milo E. Yergin was president of the "Cooperative Food Company" of Chicago. This company was pushing "Dr. Yergin's Pus and Pain Chart" (price $10), a marvel that enables one, "with the simple foods of nature," to control and obliterate in from fifteen minutes to fifteen hours any kind of pain and all pus conditions. The chart was a mimeographed affair of twenty pages.

Apparently, one could not work these marvels unless, in addition to the chart, he purchased certain "natural foods described in this chart." These foods comprised "Earth Food Table Salt," "Cinnamon Food Oil," "Myrrh Compound," "Cold Food," "Sea Food Baths," etc. These were all for sale by Yergin's Cooperative Food Company at prices ranging from 25 cents to $3 a package. The concern also put out a "chemically pure Epsom Salt," price $1 a pound.

The name of the Cooperative Food Company was later changed to "N. H. S. Food Plant." The "Natural Health School" itself seemed to combine religious fanaticism with quackery. Scripture was quoted freely and in 1922 the *Natural Health School Journal* declared that the world would come to an end within the next two years. A most gorgeous description was given of the World to Come.

Yergin published a picture portraying the wall around the New Jerusalem, said to be "of pure jasper, at least 288 feet above its foundation," and added an inset of the Equitable Life Building to show that this wall would be as high as the New York skyscraper!

But, though Yergin declared that the world would come to an end in 1924 and that no subscriptions to the *Natural Health School Journal* would be accepted after Sept. 1, 1922, he nevertheless urged his followers to buy stock in the

This School Instructs How to Obliterate Tuberculosis in All Stages, in 24 to 48 Hours, and Restore Sound Health
NATURAL HEALTH SCHOOL
Be a Loyal American
BE HEALTHY
CHICAGO, Illinois
759 East 37th Street

Photographic reproduction of the letterhead used by Yergin. Note the claim that tuberculosis can be cured in forty-eight hours.

Natural Health School. Possibly it is a misnomer to speak of "buying" this stock, although it was Yergin's own phrase, for it appears that the stock was "non-interest bearing" and "pays no dividends after the manner of this world."

Yergin permitted any person to purchase as much stock as he desired, price $100—cash, after the manner of this world!

No Radio Concerts

In addition to his food fads, Yergin developed another theory as interestingly bizarre as any ever offered by those who live by their wit. He put forward a "True Musical Therapy" whereby with the aid of a piano "thoroughly in tune, having high quality strings," it was possible to produce vibration rates corresponding to the chemical elements! Thus we read:

> "Take, for instance, mercury and chlorin and strike the keys on a well-tuned piano, corresponding to these chemicals on the Key Chart—D in octavo two, and B in octavo seven as marked—and after a few seconds, the sensitive persons will respond with a noticeable flow of saliva in the mouth.
>
> "Keep the keys sounding for a few moments and it will start a bowel action."

As not all people can play the piano, Yergin had under consideration—provided the world did not come to an end before he was able to carry it out—the idea of writing out "true therapeutical music, and have it perforated on rolls" so that those who wished to have their health restored could buy a roll and place it in a player piano.

So far as is known, Yergin gives no concerts by radio. In view of the possibilities involved, this is just as well.

The Alsaker Way

During the past few years one Rasmus Larrsen Alsaker has been advertising a series of "Books That Teach the Alsaker Way to Health and Efficiency."

Alsaker was born in 1883 in Norway, and attended an eclectic medical college, graduating in 1910. In 1917, when Alsaker was 34 years of age and had been out of medical college barely seven years, he was heralded in the advertisements as "an eminent authority" who had "put the net result of his many years of

professional experience with sick people into his writings."

Apparently Alsaker rejects the elemental fact that certain diseases are caused by bacteria (germs). He declares that colds are due, not to bacteria, but "to wrong eating." He classes germs along with "magic and evil spirits" among the "theories" of "medical history." Alsaker also solemnly avers that drinking hard water will result in mineral deposits being formed in the arteries thus causing hardening of the arteries (arteriosclerosis).

One of the books put out by Alsaker is "Curing Catarrh, Coughs and Colds." According to a recent advertisement of this book (*Physical Culture*, December, 1924), Alsaker is "one of the leading specialists of the country who has cured thousands of the most terrible cases of catarrh, after all other remedies have failed." This same advertisement states that catarrh is "a mighty serious ailment"; in fact "a filthy, repulsive and dangerous malady."

There are, we learn, many kinds of catarrh: catarrh of the chest, catarrh of the stomach, catarrh of the large and small intestine, catarrh of the ear and catarrh of the liver. The doctors, of course, are terrible duffers when it comes to curing catarrh. The proper way to cure it is to buy Alsaker's book which "gives you a simple, safe, sure cure, without drugs, medicines, exercise, baths or apparatus of any kind."

During the influenza epidemic, public fear was capitalized to sell the book "The Alsaker Way to Prevent and Cure Influenza, Catarrh, Pneumonia, and Other Troubles of the Nose, Throat, Lungs, etc." We were reminded of the "terror that spread over this country during the 'Flu' epidemic when human lives—young and old—were being slaughtered in appalling numbers, and medical science was powerless to control it." We were told, too, that "medical science predicts that this horrible destroyer of life is coming back again to work still more frightful havoc—all leading up to this puff:

"There is a skilled physician in one of our largest cities who successfully treated hundreds of cases during the epidemic. All who followed this doctor's advice got well.

"In addition, he advised thousands of men and women in scores of other towns and cities of the country—how to protect themselves—and actually defy the epidemic. (These facts can be verified by any genuinely interested inquirer.)

"This skilled physician—R. L. Alsaker, M.D., has put his expert knowledge at everybody's disposal in a printed form which explains in the simplest and plainest English all about the cause, the prevention and the cure of Colds and Influenza, Pneumonia, Catarrh (all forms, chronic and acute) and all kinds of lung, chest, throat, nose, stomach and intestinal troubles which make ourselves and our loved ones easy victims of these dread diseases."

Another of Alsaker's books is "Curing Diseases of the Heart and Arteries." The first part of this book contains such elementary facts of physiology and hygiene, as might be found in the ordinary, common-school textbooks on such subjects. The therapeutic phases of the subject are so treated that the reader might conclude that all physicians, except Alsaker, are either fools or rogues, and that from Alsaker alone flows the only pure, unadulterated, 100 per cent. medical knowledge. Thus:

"To show what correct treatment will do, after medical treatment has failed, I shall tell you about a few cases taken from my own practice. . . ."

More than thirty pages of the volume are given over to a discussion of the "treatment of heart disease." There is no justification for leading the public to believe that diseases of the heart can be self-diagnosed or should be self-treated. Alsaker's book on this subject may make a hypochondriac of a person with no organic trouble or it may lead a patient who is under the care of a physician because of heart disease to abandon such rational means as the physician might recommend and attempt,

How to Cure Catarrh
The Alsaker Way
R. L. ALSAKER, M.D.
THE majority of the people in our country suffer from catarrh. Some have it from time to time, others have it all the time.
High Blood Pressure —Hardened Arteries
—How to Remedy
By R. L. ALSAKER, M. D.
(Specialist in Health Conservation)
R. L. ALSAKER, M. D.
Does Sugar and Starch Eating Cause
Diabetes
and Bright's Disease?
By R. L. Alsaker, M.D.
(Specialist in Health Conservation)
R. L. ALSAKER, M.D.

Here are some reproductions of parts of typical Alsaker advertisements. When Alsaker had been out of medical college barely seven years, he was advertised as "an eminent authority" of "many years of professional experience."

with disastrous results, self-treatment by "The Alsaker Way."

Recently Alsaker and those associated with him have brought out a magazine, another addition to the proponents of commercially profitable fads and fallacies. The magazine is called *Correct Eating.*

Many of its pages are devoted to advertising Alsaker's books. Thus the reader is told that all stomach and intestinal troubles, diabetes, Bright's disease, hardened arteries, appendicitis and various other conditions are "permanently cured by following Dr. Alsaker's instructions in regard to eating." Other advertisements in the first issue of *Correct Eating* are of similar character. Alsaker is editor of the magazine and a full page bust picture of him adorns the first issue.

Yoghurt, Inc.

At South Bellingham in the State of Washington is located Yoghurt, Inc., another concern that seems to find food fads profitable. Originally it was the Yoghurt Company, and confined its business largely, if not exclusively, to the sale of tablets, alleged to contain Bulgarian bacillus. Even in those days, however, it had a few accessories such as "Anti-Constipation Cookies," "Vegetable Compound" and "Vegetable Bouillon."

As the company flourished it seems to have extended its line and one finds listed "Vegetable Marmalade" (in contra-distinction, doubtless, to Animal Marmalade or Mineral Marmalade), "Flesh Builder," "Physical Culture Candies," and "Magic Soups."

Today the Yoghurt tablets are relegated to the background. Possibly this is because there is little money to be made in the sale of them, there being various brands of sour milk tablets on the market, or, more likely, because the public has lost interest in the sour milk cure, that profitable fad of two or three years ago.

At present Yoghurt, Inc., is exploiting certain "cures" and "treatments," the chief of which seems to be the "Phoenix Cure." This is "advised in all inveterate cases" and is said to consist "of all the foods you will need for three months, except a small quantity of fruits and vegetables." The price is $36. Cheap enough!

The Phoenix Cure will "remove the waste products and toxic matter from your system," it will "build up the system in the shortest time possible" and, in short, "will make a new person of you."

Then there is the "Mineral Salt Treatment," which is "recommended in all common cases." It is said to be a perfect blood and nerve food, a liver invigorator, a revitalizer and regenerator of the entire system—all for $15.

Should you not happen to be an "inveterate case" or even a "common case" but merely a "case of short duration," what you need is the "Vitamin Treatment"—price $8. This, take their word for it, will give you "more energy, more pep, more ambition and better health."

Are you skinny, send $10 for the "Flesh Builder Treatment," advised in all cases of emaciation.

Are you pimply, scrofulous or otherwise disfigured with a skin you hate to touch? Send $5 for the "Healthy Skin Treatment"; it eliminates all skin diseases.

Conducts "Temple of Health"

Evidently the number of people who can be separated from their money via the food fad route is large, for Yoghurt, Inc., seems to be flourishing. The concern now features a sanitarium, the "Temple of Health," with eighty-five rooms, a staff of trained nurses and one drugless physician.

The Temple of Health circular lists the diseases treated; these range alphabetically from Acne, Asthma, Bronchitis, Cancer, Consumption and Diabetes, through Epilepsy, Goitre, Heart Disease, Liver Troubles, Obesity, Paralysis and Piles to Skin Disease, Stomach Disorders, and Varicose Veins. Apparently they treat nothing beyond "V." Sufferers from Wry-neck, Xeroderma, Yaws or Zoster must go elsewhere.

Those who answer the Yoghurt advertisements are sent various pieces of advertising material, puffing the Phoenix Cure and the Mineral Salt Treatment, the Temple of Health and such other accessories as Yoghurt, Inc., may have to offer. With all this there is a diagnosis blank to be filled in by the prospective patient and mailed to Yoghurt, Inc., for "further free service of our Medical Adviser."

One person who filled in the diagnosis blank and reported as his only trouble a pain in the side after eating was told that the trouble "must be attributed to a growing toxic and acid condition," that the condition was becoming rather serious and that a "full course Phoenix Cure" (price $36) was recommended.

Doubtless having found from experience that not all prospective victims will part easily with $36, the suggestion was added that possibly the "Mineral Salt Treatment" would produce excellent results, price $15. Whichever treatment it was decided to take it should be ordered soon, "since your various ailments can reach a decidedly serious stage in an astonishingly short time."

Claims Cancer Cure

But this is not all. Those who write to Yoghurt, Inc., get in addition to the material just detailed, two large four page folders, printed in the form, style and size of a daily newspaper.

It is headed *The Yoghurt Health News* and features a new cancer cure that the Yoghurt Sanitarium now offers. The cure, of course,

Get Right With NATURE The Yoghurt Way

THE
YOGHURT HEALTH NEWS

You Are Helping YOURSELF In Helping Others

VOL. 2 NO. 2 BELLINGHAM, WASHINGTON

PATRONS WILL SHARE PROFITS

CANCER TREATMENT NOW READY

New Department Opens To All External Cases

Cancers Removed by Method Proved to Be Successful in Saving Victims of Dread Disease After Other Systems Fail.

Must Enter Sanitarium To Receive Treatment

Secret Compound Kills Deadly Growths; Leaves Healthy Flesh and Arteries Unharmed; Perilous Cases Can Be Handled More Safely.

Cancer, perhaps the most intractable, most dangerous disease known, may now be treated successfully at Yoghurt Sanitarium, in Bellingham, Wash.

Bringing hope and joy to thousands throughout the country, whose lives are literally being sapped out by this hideous vampire of the disease world, Yoghurt, Inc., announces with this issue of The Yoghurt Health News the definite opening of a new department in its Sanitarium for the treatment of all forms of External Cancer.

This announcement follows several years pra[ctice] tion and close observation of [the] which [has]

Cures Cancer After Doctor Gave Up Hope

Man Escapes From Death—Praises System Used at Yoghurt Sanitarium.

By THOMAS T. JONES
(Doctor, San Juan County, Wash.)

I have been told that my recovery from cancer is one of the most remarkable cases on record, and I believe it is.

My cancer was on my hip and there is no room for doubt or dispute about the identity of the growth, for so its enthusiasts, for several of the most prominent doctors in the City of Seattle diagnosed it and treated it as cancer.

These doctors had cut the cancer out, treated it with radium, electricity and hot iron, but without curing the cancer. The odor was so offensive that nobody could stay in the room with me for more than a few minutes at a time.

My Seattle doctor finally told my folks that I had only a few days or a week to live. They advised them to give me narcotics and make me as comfortable as possible until the end came, for they said they had done everything for me that they could. They had given me up absolutely.

I was in a well known Seattle [hospital] as an incurable, and heard [the] doctors

Woman Freed of Deadly Growth

HAD BREAST CANCER; GONE IN FIVE WEEKS

MRS. ROSE G. HAHN
416 S. Washington, Ave., Centralia, Wash.

Photo taken three and a half months after treatment was finished.

I want to tell you how thankful I am that I employed your new method of curing cancers for the removal of a very bad cancer from my breast.

Naturally every woman fears an [op]eration of this kind for we all realize that removal of a cancer from the breast by a surgical operation is not very painful and dangerous, but it is [un]certain in its effectiveness. So many times where the knife is used, either the roots must be removed to get at the growth below them, or the nature of the cancer must be passed on the result of some of the "roots" being left in the first. Therefore, when a prominent physician and surgeon of Chehalis diagnosed my case as cancer and advised an operation at once, I was afraid to obey him. I determined that I would resort to the cancer cure available at your Sanitarium, and I am so glad now that I did.

I began the treatment in April, 1923, and I was cured in five weeks. The cure removed the deepest roots and brought them out and I am without the fears of new cancers coming which I would have had if I had taken the operation which my doctor advised.

Sincerely yours,
(Signed) MRS. ROSE G. HAHN.
Centralia, Wash.

Addressed to Yoghurt Sanitarium, 2 Bellingham, Wash. June 7, 1921.

If some sermons were for sale, the [cheapest] would [not]

Old Remedies Not Adequate Cancer Cures

Specialist Says X-Ray and Radium Deficient—Yoghurt System Has Big Success.

"That the X-ray and Radium and other previously known forms of treatment are not adequate for the cure of cancer is the declaration of Dr. C. Everett Field, of the Rockefeller Institute of New York, according to Associated Press reports.

Dr. Field is stated to have made this report before the Association for the Study and Cure of Cancer, in connection with an address concerning a new chemical formula for the treatment of Cancer with which he is endeavored to acquaint the association during its recent convention in Chicago.

The new chemical formula, Dr. Field represented, has been successful in 60 per cent out of 100 cases, and if had been worked out in an effort to take the place of the X-ray, Radium and other systems which he said had not proved satisfactory.

Coincident with this announcement, it is declared by those who have been closely associated with [the] discovery that [the] Yoghurt System of Cancer Treatment, which has been in use at the Yoghurt Sanitarium, Bellingham, Wash., for the past two years, is [the] most successful [in the] world.

Yoghurt Calls Friends For Big Opportunity

Big Health Concern Pledges Liberal Returns in Exchange for Help in Bringing Aid to Thousands Suffering for Need of Great Health Secrets.

Launches Big Program Of Business Expansion

Combined Resources Put Back of Gold Notes Which Will Bear High Interest, Pay Rich Premiums, Provide Care for Sick, Give Chance for Wealth.

Yoghurt, Incorporated, has launched a great new program of expansion, which means much to thousands of its friends and patrons scattered throughout the world. For many of those the interest in this announcement is almost vital.

The plan brings to all who will join with this corporation in its enterprise a rare opportunity for immediate Health Service and future Health Protection at low cost, together with unusual possibilities of personal gain—perhaps fortune as well as for noble and gratifying [service to] Humanity

This is a portion of the first page of a four page sheet advertising the Yoghurt Sanitarium and its alleged cancer cure. In the original, this was as large as the average metropolitan newspaper.

is secret; it saves victims after other remedies fail, and cures cancer after the doctor has given up hope.

Thus does a concern that started out as a dispenser of fad foods go into that most despicable and cruel branch of quackery, the alleged cure of cancer. In few, if any, other fields are victims more easily obtained than in that which caters to the sufferers from cancer. Doubtless Yoghurt, Inc., will make money in this business; that is the history of cancer quackery.

In order to obtain capital, Yoghurt, Inc., is offering to the public what is called "8 per cent. convertible gold notes." On the money invested, the concern promises to pay back the original capital in five years, and pay 8 per cent. per year, payable semi-annually, for the use of the money.

Should the investor become sick he has the privilege of trading his "gold notes" for Yoghurt health food products, for mail order treatments, or even for treatment at the Sanitarium itself, to the value of 20 per cent. more than has been invested.

The widespread exploitation of the public by self-styled experts in dietetics caused the U. S. Department of Agriculture some time ago to issue a public warning. While the government bulletin named no specific "diet experts" and was published more than ten years ago the general warning still applies. Two pungent paragraphs are quoted:

"In view of the wide spread of literature and advice of so-called 'diet experts,' it seems desirable to warn people against adopting the dietary recommendations of those without real scientific standing in the community. Some of the advocates of freak diets are sincere, but are themselves deluded; while others are fakers, who seek to make monetary gain by advising peculiar systems of diet. Neither class can offer trustworthy advice. In most of the recommendations of these self-established 'experts,' there is hardly a shadow of reason, though they may seem plausible. . . ."

"If the deductions of many food faddists accepted as facts were really operative, it would be difficult to explain how the human race had survived. The race should have expired very soon after man had progressed enough in intelligence to begin to exercise any choice in his diet and to cook his food. The contrary holds true, as civilization had advanced from the time when man began to cook and otherwise prepare his food."

Seldom Found: A Light Occupation in the Open Air

ETHAN ALLEN GRAY

A LIGHT occupation in the open air is advisable for the convalescent, no doubt. However, it is not often found. What may be a light occupation for the well man is rarely a light occupation for the man who has fought his way back to partial health.

The light job is frequently advised by those who have little knowledge of what the "light job" really is. Whether the patient is really up to the job is scarcely considered.

The convalescent usually returns to the field of work with empty pockets and a realization that he must begin to earn his way. He does need that light job, but it should be remembered that the job must be fitted to the man, not the man to the job. It must be known how many hours a day the man can work without detriment to his newly gained health. The kind of work must be considered as well as the number of hours he can work per day, if the best results are to be attained.

Invalid's Hours Must Be Regulated

When the consumptive in a well regulated institution is allowed to rise from his bed, his "up time" is accurately determined, not left to his inclination, or subject to his tendency to overdo. The time out of bed is gradually lengthened, until he reaches a point where he is up all day, save for the rest hour. Then, if all has gone well, he is allowed a short period of exercise, say ten minutes. This exercise time is also watched and increased until he can do a definite amount of light work without damage to himself, the indicators being rise of temperature, or pulse, loss of appetite or weight, or any other untoward symptom. Directly one of these signs appears, the time of exercise is shortened or even taken away entirely, not again to be prescribed until conditions are once more favorable.

Owing to the slow increase of time up and exercise, in the given case, there is usually no injury to the patient when the line of safety has been overstepped. The important thing is that the liberty of the patient in these matters is strictly prescribed, not left to his judgment.

With these points in mind, we may take up the consideration of a few specific occupations. One very outdoor job is that of driving a milk wagon or delivery cart. Whoever has seen the grocer's boy or the milkman on his rounds will agree that there is much hard work connected with these callings, hard work which is too much for the man who needs a light job.

"Take up gardening" is another piece of advice that needs elimination from the list of easy jobs for the convalescent. There is much hard work in a garden if it is to be a paying business. Besides, most gardening is dependent on the hot sun, and the summer sun is apt to take the sap out of a man.

A similar bit of advice is to get out on the farm and live in the open air. A farm is as much a place for hard work as any factory. Its business is the production of foodstuffs, and it needs a man's full time. There is no place on the farm for the man who expects to have a light job. If the man's home is on the farm, with his people, he may have light tasks through the indulgence of his family. Otherwise, the farm is no place for the man who is half sick or, rather, half well. "Just do chores" is another favorite recommendation. Chores will keep one busy if they are well done. Odd jobs on the farm will pretty well fill up the day and wear out the half well man.

The best thing the writer knows to do is to send the convalescent back to his old job, unless it is a distinctly hazardous one, or one that has been responsible for his breakdown. At his old job, if the former patient can procure part-time work at the beginning, he will do best. He will be spared the anxiety that attends the learning of a new occupation, he will know the short cuts in his work and will often have the sympathy and help of his comrades to the extent of being relieved from the harder parts of his labor.

Doctor Should Study Job Hazards

The part time worker must be kept on his part time until it has been demonstrated that the work he is doing is not harming him. Then, and then only, may his hours of labor be increased, but they should not be increased except by orders from his physician.

The wise medical man will do well to familiarize himself with the job which he contemplates recommending to his patient. There are, in all trades, hazards that may seriously influence the course of treatment; these should be studied in order that they may be eliminated as far as possible.

The patient who returns to work must not lose sight of the fact that eternal vigilance is the price of his rewon health. Let him present himself for frequent examinations in order that he may not slip. The convalescent consumptive who breaks a second time almost never "comes back."

The Layette

VELMA WEST SYKES

IN MOST stories and plays, it is amusing to note that the first indication the prospective father has of the new dignity he is about to assume is when the prospective mother shyly shows him a pair of small pink bootees or a fine little dress.

This indicates that the mother-to-be does her shopping early—or at least, a part of it. And indeed, she is very wise to begin getting together the most important articles for the infant's wardrobe as early as possible, for she will choose better things if she need not make hasty purchases.

Most young prospective mothers, especially those expecting the first visit of the stork, are apt to stock up with adorable and frilly nonessentials before they realize it and then find that the layette is entirely too expensive. For this reason, it is a good idea to get a list of the necessary articles and obtain them first, after which as many absurd dainties may be purchased as the purse will afford. However, at the present time, simplicity is the keynote of the infant's wardrobe and too much elaboration is considered bad taste.

Short Skirts for Babies

No matter what we may think of abbreviated skirts for women, for babies they are the most sensible kind. It has always been a mystery to me how mothers of that age when infants' skirts must touch the floor ever laundered the babies' clothes or how the babies ever survived among all the tucks, ruffles and yards of cloth. Both modern mother and baby have much for which to be thankful.

As the baby's health depends largely on the way he is clothed, and as his comfort must also be considered, the articles of the layette are not altogether for adornment purposes. A great many things must be taken into consideration when planning the layette. The season in which the baby will be born, the climate of the locality at that season, and the way in which the home is heated will have much to do with the way the baby should be dressed.

Personally, I like the dresses that are twenty inches in length for infants, as these never have to be shortened. They are the most sensible kind to have for babies born in warm weather or for those who choose parents with furnace-heated houses. But in homes where the bedrooms are apt to be cold, there is much to be said in favor of dresses and petticoats 26 inches long. This length gives extra protection for the pink toes that must not be allowed to turn blue, and yet is not so long as to be a nuisance.

Beginning in the order in which garments are put on, the baby will need first some straight strips of soft material for bands. Hospitals often furnish these to babies born there, or they may be torn from birdseye diaper cloth. These should not be hemmed for fear of the hems chafing the baby's tender skin, and should be about 26 inches long and five inches wide. Four will be plenty. There are bands on the market, of course, but the length of time that bands are needed scarcely justifies the expense of buying them.

Needs 36 Diapers

Plenty of diapers are essential to the baby's welfare and the first ones will be more comfortable if they are small, 24 inch squares being a good size. Eighteen of this size and eighteen 30 inch squares should be sufficient if the baby's washing is to be done frequently; more are needed if the washing must go a full week. I always liked the birdseye cloth for the first diapers, but the canton flannel or outing flannel are more absorbent for an older child.

Three shirts will keep the baby clean and comfortable, and these may be cotton or silk for summer and three-quarters wool for winter months. Even for summer it is better to get long sleeves; then they may be worn long or rolled back as the weather indicates. In cold weather, if the shirts are not the double-breasted kind, it is a good idea to use a small sleeveless knit band under the shirt.

The first garment a baby knows is a blanket and he needs three, at least. In fact, he will probably

live in little more than a blanket for the first few weeks of his life, so more will not come amiss. These may be made from a large blanket or may be purchased in dainty patterns from the infant shops. They should be washable and not decorated with crocheted edges in which baby might catch his fingers. Nothing makes a baby quite so indignant as to find his fingers caught in something from which he is unable to extricate them.

When baby goes out, he will find a baby-bunting style coat the most comfortable garment for winter, and a cashmere coat and thin hood for summer. The hood being fastened to the baby-bunting protects the baby's neck from chilling.

Should Keep Dresses Simple

Four plain dresses are absolutely essential to complete a baby's wardrobe, and soft nainsook is a very good material to use for them. The mother can make as many other dresses as she desires, but it is wise to remember that babies have a habit of growing very rapidly and much money can be wasted making more dresses than can be used. Some of the most popular materials for good dresses are Egyptian longcloth, mercerized batiste, India linen, checked dimity, and sheerette.

Three nightgowns should be ample for the baby and nainsook for summer wear is good. For winter, outing flannel is better. The length should be about 26 inches and a tape should be inserted at the hem so that they may be drawn up around the feet.

No matter what the season, I believe it is a good idea to have three flannel petticoats. These should be made Gertrude style, and while they may not be needed part of the time in hot weather, they are very handy to have for cool changes in the weather and for putting on when the baby is taken out of evenings. I never use all-wool flannel since it is so hard to keep that from "fulling" when it is washed; I always buy the part wool. A cotton flannel petticoat is no protection at all. It will get soggy and wet and chill the baby, while the flannel petticoat does not do this.

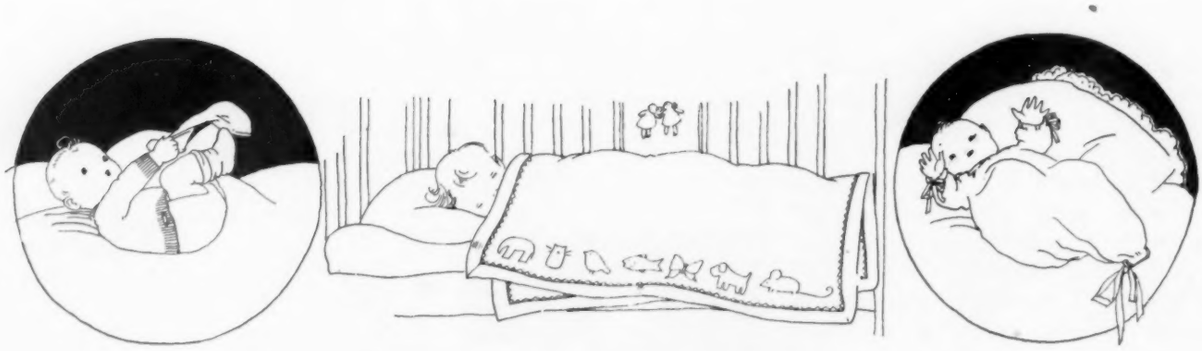
Three pairs of wool stockings will be needed to keep baby's feet warm in the winter and three pairs of bootees are a nice addition, though they need not be worn all the time. In the summer, cotton stockings may be worn, or bootees without stockings.

White petticoats are needed only under fine white dresses, and the mother may make as many as she sees fit. Lonsdale cambric or fine nainsook may be used.

Baby's Clothes Should Be Kept Together

The baby should have a place to himself for his own wardrobe, or his clothes are apt to be scattered all over the house. While hand-embroidery, fine crocheting, tatting, and narrow laces may be used with good effect in making up the baby's wardrobe, comfort should never be sacrificed for style and the trimmings should never be such as will chafe the neck and wrists of the infant.

If a baby is kept warm, if his clothing does not irritate, and if he is properly fed, he is bound to be a good baby. So in some respects, clothes do make the baby.



Successes and Failures of Surgery

DAVID CHEEVER

WHAT are the conditions for success in surgery, and what the causes of its failures? First, consider the surgeon himself. Unlike poets, surgeons are made, not born. A certain natural talent there may be, but only years of apprenticeship in hospital and clinic, with constant practice and study thereafter, can make of an individual a competent surgeon.

All honor to the men who, in isolated situations remote from consultation and help, practice all the arts of healing, both medical and surgical, to the utmost limit of their ability, and with success! Nevertheless, surgery is work for specialists, and in large communities should be in their hands.

Second, consider the patient. The one way in which he can profoundly influence the result of treatment (except by seeking it promptly, as will be noted hereafter) is by his mental attitude. No one disputes the effect of the mind on the body. The work of the various organs is under the control of, or at least profoundly influenced by, the sympathetic nervous system, which, far from being purely automatic, is connected with the spinal cord and indirectly with the brain. Every one knows how powerful emotion, such as fear, anger or grief, will affect the action of the heart, the rate and depth of respiration, the functions of the digestive, excreting and circulatory apparatus.

Patient Should Be Optimistic

The patient who enters on an operation with cheerful optimism, convinced of his recovery, will have a better chance than the man who is certain that his time has come and that he will never survive. Most surgeons believe that they have seen patients die solely from the inhibition of certain vital functions by influence coming indirectly from the mind. It is good opinion that the patient who is certain that he will not get well had better be left alone until he changes his point of view.

Other conditions affecting the patient can only briefly be touched upon. Obesity is as much a handicap in surgery as in the treatment of diabetes; the surgeon struggles with it while the patient is wrapped in the blessed Nirvana of anesthesia, and convalescence is rendered somewhat less comfortable and certain. The extremes of age are undesirable, yet in case of need serious operations may be carried out on the first day or during the ninth decade of life.

Physically unsound patients are not necessarily bad surgical risks; heart disease if not in an acute stage is no bar, and diseases of the lungs and kidneys, formerly so menacing, may be made much less so by the proper choice of the anesthetic. There are agents for local anesthesia, such as novocain, which are practically non-poisonous and with which many major operations can be painlessly carried out. Sometimes a patient under a small dose of morphin and anesthetized with novocain will sleep during a large part of a major operation on the abdomen.

Third, consider the conditions surrounding the operation. Doubtless a good surgeon can operate and save a life with the kitchen table for operating table, the wash boiler for sterilizer, a penknife, embroidery scissors, kitchen forks and spoons bent to serve as retractors, a needle and thread. But such an equipment is not desirable. The day is gone by when a room in an ordinary dwelling house can be made into an acceptable operating room, except at considerable expense. The expedient is often necessary, but where possible, surgical operations should be carried out in a well-equipped operating room, where every likely contingency is provided for.

Delay May Mean Fatal Results

Fourth, consider the time of operation. Delay is but another name for the Giant Despair who lives in Doubting Castle, and education of the public in medical matters must be the key of Promise to liberate humanity from his dungeons. It may not be inapt to compare the surgeon to a fire department, which every one will agree could extinguish any fire without much damage if called early, except in the case of sudden conflagration due to explosives or gases. Similarly surgery offers prompt and sure relief if applied early except in suppurative infection of extreme virulence, or in the case of a few highly malignant tumors which disseminate themselves in the blood stream before the parent growth makes its presence known.

Statistics illustrating this delay are constantly quoted. In 1912 the Pennsylvania medical society investigated 400 cases of cancer, and found that in superficial cancer the patient knew of his condition for an average of 14 months and his physician for an average of 12 months before proper treatment was begun, while in internal cancer the patient was aware of symptoms for

18 months and the physician for 13 months before treatment. In Massachusetts, in 1921 and 1922, the situation was not so bad, since analysis of 539 cases at a Boston hospital showed that the average duration of symptoms from onset to admission was 11.6 months, and the average delay after the first consultation with a physician was 4.6 months.

The effect of delay is shown in an analysis of 4,000 cases of appendicitis gathered in 1913. The analysis shows a mortality of cases operated on in the quiet interval of 0.75 per cent., of acute cases operated on early of 1.6 per cent., of cases delayed until an abscess had formed of 13.4 per cent., and of cases delayed until the onset of diffuse peritonitis, of 42.7 per cent. Statistics now, ten years later, would probably be better in showing practically no mortality in the interval cases. The same story is told by a collection of 5,000 cases published in 1914 from another country, which showed a mortality of 0.7 per cent. in cases operated on during the first day of an acute attack, of 4.7 per cent. on the second day, of 10.7 per cent. on the third day, and of 21.2 per cent. on the fourth day.

Another acute surgical condition, perforated ulcer of the stomach, furnishes similar evidence. A series of cases published in New York in 1922 shows that there were no deaths among patients operated on within the first 6 hours after perforation, 44.4 per cent. of deaths between 6 and 22 hours, and 77.7 per cent. after 22 hours. This condition, if not operated on, would furnish a mortality of probably 95 per cent.

Why Do Persons Put Off Operations?

What are the causes of this fatal delay? Let us try to analyze them. First is the insidiousness of onset of many serious diseases.

Appendicitis often begins with trivial symptoms, especially in children, who are careless and not accustomed to self-examination. A little abdominal pain persisting for a day or two, indisposition, an injudicious dose of castor oil, and the stage is set for a perforation of the gangrenous appendix, and the onset of peritonitis.

Gallstones may be cryptic in their manifestations; a chronic indigestion with occasional flare-up of pain, extending over years without apparent impairment of the health, may be the only outward manifestation of a process so advanced and complicated as to defy surgery.

Cancer is notoriously insidious; it is not the seat of pain itself, and causes none until it has invaded extensively, and if situated internally it may cause no symptoms until it has begun to interfere with the function of an organ, when it may be too late for cure.

The second factor is indifference on the part of the patient. "Hope springs eternal in the human breast," and it seems to be characteristic of healthy-minded people that they will neglect their symptoms and hope for the best. Too much introspection is a bad thing, but a normal curiosity as to the cause of early symptoms would save many lives.

A third factor is failure on the part of the doctor first consulted to make a diagnosis or to recommend further efforts to identify the cause of trouble. Doctors are only human, and make mistakes like other people. These are to be excused if they have omitted no reasonable effort to do justice to the patient.

But not infrequently the patient himself refuses to submit to proper diagnostic measures, or at least offers no encouragement to the doctor to proceed with them. Diffidence and false modesty play their part. The anticipated expense of a consultation is a fancied obstacle, but every doctor who refers his patients to specialists should know that his consultant is glad to see his charity cases for little or nothing, if he also brings to him more lucrative clients. Moreover, the hospital always stands ready to place its staff and equipment at the service of the general practitioner.

Misinformation and poor advice from the laity are potent factors in delay. Just why a patient will sometimes prefer to accept the advice of a friend, who may be a bank clerk or a dressmaker, in a matter of illness, is impossible to explain.

Some Try Quacks and Cultists First

A woman applied at the out-door department of a certain hospital in Boston to seek advice about a very small lump in the breast. Though small, it had the characteristics of cancer and the patient agreed to enter for operation two days later. She failed to come, but presented herself about one year later, apologetic, emaciated and nearly penniless.

On reaching home from her hospital visit of a year before, she had confided in a neighbor, who advised her not to "go under the knife" but to consult an advertising quack who did not believe in that weapon. She did so, paid a large consultation fee, and went faithfully every week to purchase another bottle of his vile concoction at $5 per bottle. It required the growth of the cancer to large size, ulceration, offensive discharge and symptoms indicating the invasion of other organs to convince her that she had been betrayed.

Only a palliative operation was possible, which was done without expense to her, and with hope gone and savings spent she was given asylum by relatives until her death six months later. In that type of case, a timely operation would have given her an 80 per cent. chance of permanent cure. Is there any word in the English language adequate to describe the vile character of this charlatan, who makes fair promises

while he robs and consigns his patients to suffering and death?

In another case, a woman was actually on her way with her husband to keep an appointment to enter a Boston hospital for operation for cancer of the breast. She stopped at a bank to draw money for her expenses, was advised by no less an authority than the paying teller to go to an advertising pretender. The result was the same. These criminals cover their work so artfully that the law cannot touch them.

In this same category of delay owing to misinformation must be included in all too many cases, instances of attempted cure by persons practicing the pseudo-medical cults; persons usually of totally inadequate medical training, who subscribing to an erroneous doctrine of the nature of disease, attempt to cure by their peculiar methods serious cases of organic illness, as well as the derangements of function which often yield to their measures.

The practitioner of these cults who "adjusts" an alleged subluxation of the bones of the spine and manipulates the thorax in a woman with cancer of the breast, who reduces a "lesion" of the skeleton while a woman slowly chokes to death from a rapidly growing goiter, or who manipulates an alleged displacement of ribs for symptoms that are due to a thorax full of pus, is a menace to the community. Whether or not he is conscientious in his self-deception, he is withholding the only rational hope of relief—surgery.

Fear Is Greatest Cause of Delay

But the most universal and potent factor in delay is fear. Most persons have never had a surgical operation, and it is certainly quite understandable that what is unknown should inspire apprehension. Let us note some of the expressions that every surgeon hears from day to day, with minor differences. "Doctor, you don't know how I dread to go into the hospital!" One would suppose it was the pest house, whence but few emerged alive, with nursing carried on by prototypes of Sairy Gamp, instead of a place which most patients enter ill and leave healed, having been sympathetically cared for by young women trained in their profession!

"Oh Doctor, how I hate to go under the knife." This expression is well-nigh universal; the implication is of the merciful instrument of decapitation invented by Monsieur Guillotine and converted to the base uses of the French revolution, with a bloody executioner standing by. The exasperated surgeon is tempted to say that he will do the whole operation with scissors, which indeed he usually does.

"My great-aunt said: 'Don't let them begin cutting you, they are sure to find something else and keep right on.'"

"Doctor, I have made up my mind never to be operated on; I would rather be buried whole."

Little does the speaker realize that probably the disease from which she is suffering will destroy much more of her tissues before death brings tardy release than the surgeon would remove in curing her.

"My aunt's cousin Mary was operated on and she never was the same again." Probably not, exactly, but perhaps the change was due to the disease which was just reaching a critical point when the operation was undertaken; or perhaps cousin Mary was one of the kind who enjoys ill health, and likes to share her experience with her neighbors.

Teaching Hospital Always Safe

"My neighbor, Mrs. X said: 'Don't go to the hospital, you will be experimented on by the students.'" The implication in this statement, which is not infrequent, is absolutely false. In no reputable hospital do students have any responsibility in the treatment or care of patients. They take histories, do laboratory work, cut off plaster of Paris moulds, hold instruments and generally do what they are told. There is an impression that the house officers of our large hospitals are students. That is very seldom the case, except in rare instances and junior grades. They are graduates in medicine, registered as such and empowered by law to practice their profession; this they are too ambitious to begin without further experience.

The safest hospital for a stranger in a strange city to ask to be taken to is the one where teaching is done in connection with a reputable medical school. It is a fair assumption that the staff will be fully in touch with medical progress, and that the patients will receive critical attention and care.

"Doctor, I am certain that I will never come out of the ether. Are you sure I won't feel anything? How long will it take?"

"When you take the stitches out, will you give me ether so it won't hurt?" Such remarks betray a dread of pain and danger that is not justified by the facts. A death under an anesthesia and due to it, is a very rare occurrence; in skilful hands, so rare that the surgeon does not count it as among the risks.

Of course, a desperate case must be operated on at times, with the possibility that the shock may be fatal, but in such an instance it is likely that there was everything to gain and nothing to lose. The sleep induced by anesthesia is deep and dreamless and nothing that transpires on the operating table is felt or noted. The patient wakes up in bed.

Removing Stitches Causes Little Pain

Convalescence in good hands may be made singularly comfortable. Some wounds cause no pain at all; others, especially in the abdomen, cause pain in moving or coughing. The nausea and vomiting after anesthesia are disagreeable,

but in at least half the cases they are negligible. The reestablishment of the intestinal function causes some gas pains, usually but not invariably. That taking out the stitches causes pain is an ancient bogey; if they are properly placed and carefully handled, they should not occasion more than a negligible prick on removal.

It is a very human characteristic that we should magnify our experiences in retrospect and in relating them to others, and thus it is with surgical experiences. People are rather apt to dwell on any disagreeable aspects, and introduce a little of the heroic to satisfy their self-esteem. If every patient who has been successfully operated on, and who has been agreeably surprised by the relative freedom from pain and suffering, and by the many pleasant features of his stay in the hospital, should constitute himself a lay missionary to combat the usually unjustified dread of surgery, its power to cure human ills would be doubled or trebled.

The science of medicine is constantly advancing, and surgery has not yet reached the pinnacle of its brilliant history, but it is likely that major developments to come will limit rather than broaden its field.

For instance, the long-sought antiseptic that may be injected into the blood without injury to the host, but with destructive action on the bacteria in the tissues, may transfer the field of suppurative inflammation from the surgeon to the internist. And who can doubt that a cure will be found for cancer, by other means than mechanical removal; perhaps by further development of radiant energy, or by supplementing some existing glandular function, just as insulin, discovered by well-reasoned and logical animal experimentation, has been applied to the relief of diabetes?

All surgeons worthy of the name must echo the remark of John Hunter 150 years ago, that "to perform an operation is to mutilate a patient whom we cannot cure; it should therefore be considered as an acknowledgment of the imperfection of our art."

[*Part I of Dr. Cheever's article appeared in the January, 1925, issue.*]

Mark Twain on "Man"

"MAN can't sleep out of doors without freezing to death or getting rheumatism; he can't keep his nose under water over a minute without being drowned. He's the poorest, clumsiest excuse of all the creatures that inhabit the earth.

"He has to be coddled, swathed and bandaged to be able to live at all. He is a rickety sort of thing any way you take him—a regular British museum of inferiorities.

"He is always undergoing repairs. A machine as unreliable as he is would have no market.

"The lower animals appear to us to get their teeth without pain or inconvenience; man's come through after months of cruel torture, at a time when he is least able to bear it. As soon as he gets them they must be pulled out again. The second set will last for a while, but he will never get a set that he can depend upon until the dentist makes one.

"Man starts in as a child, and lives on diseases to the end, as a regular diet. He has mumps, scarlet fever, whooping cough, croup, tonsillitis and diphtheria, as a matter of course.

"Afterwards, as he goes along, his life continues to be threatened at every turn by colds, coughs, asthma, bronchitis, quinsy, consumption, yellow fever, blindness, influenza, carbuncles, pneumonia, softening of the brain and a thousand other maladies of one sort and another.

"He's just a basketful of pestilent corruption, provided for the support and entertainment of microbes. Look at the workmanship of him in some particulars:

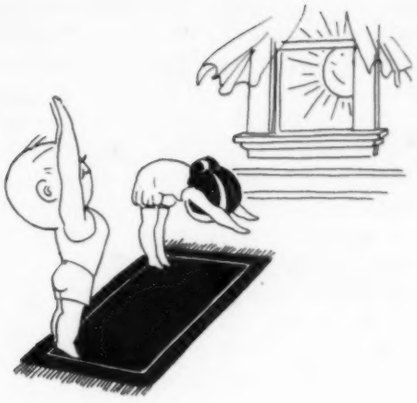
"What's his appendix for? It has no value. Its sole interest is to lie and wait for a stray grape seed and breed trouble.

"What is his beard for? It is just a nuisance. All nations persecute it with a razor. Nature, however, always keeps him supplied with it, instead of putting it on his head.

"A man wants to keep his hair. It is a graceful ornament, a comfort, the best protection against weather, and he prizes it above emeralds and rubies, and half the time nature puts it on so it won't stay.

"Man isn't even handsome, and as for style, look at the Bengal tiger—that ideal of grace, physical perfection and majesty.

"Think of the lion, the tiger and the leopard, then think of man, that poor thing! The animal of the wig, the ear trumpet, the glass eye, the porcelain teeth, the wooden leg, the silver windpipe, a creature that is mended, all from top to bottom."—*Mark Twain.*



"How I Keep Fit in Winter"

PRIZE LETTER CONTEST

First Prize Letter—$25

WINTER fitness rests on five fundamental principles: (1) general physical well-being; (2) accustoming the skin to cold; (3) adequate ventilation and a proper temperature; (4) proper clothing; (5) avoidance of infection.

The first is attained by regular and systematic exercise; moderate and considered eating; adequate and regular sleep; free elimination by bowels, kidneys, lungs and skin; plenty of congenial work; enough rest and recreation to relieve the tension; and abstinence from worry.

The second is brought about by exposing the skin, daily, to cold water, cold air or both. Begin with a tepid shower, for one minute, and gradually reduce the temperature from day to day until the most invigorating results are obtained—*then stop.* Many people, especially the older ones, cannot stand ice cold water on the skin.

The time of this shower should never exceed two minutes, and it should be taken on arising, following ten or fifteen minutes of vigorous exercise in a room having an open window and with the body naked or in night clothes only. Follow the bath by a brisk rub with a rough towel.

For the third requirement, there should be sufficient ventilation to supply every occupant of a room with 3,000 cubic feet of fresh air per hour, day and night. The best temperature for those who are working is 68 degrees; for those who are sitting quietly, a trifle higher; for sleeping rooms, the temperature of the outdoor air—but use enough light, warm covers to be entirely comfortable.

The fourth condition can not be met without thought and regulation. Clothing should be adequate to conserve the body heat, but not heavy enough to cause obvious perspiration; loose enough to permit free movement of all parts of the body; porous enough to permit air to reach the skin; and adapted to the temperature and weather conditions.

When it is very cold, put on more clothes *outside,* which can be removed on entering the house. When it rains or snows, put on a raincoat and rubbers. The very young, the old and those who perspire very freely should wear underwear containing from 15 to 75 per cent. wool.

To meet the fifth requirement, keep as far away as possible from those who cough, spit and sneeze; avoid crowds, especially indoors; avoid the chilling of parts of the body, which leads to local congestions and opens the door to bacterial invasion; breathe through the nose day and night, and if this is impossible, see your doctor and have your nasal deformities corrected; wash out the nose and throat thoroughly, after your day's work, with a solution of half a teaspoonful of common salt in a glass of warm water; wash the hands frequently, the face two or three times a day and the hair often.

If you will follow the above suggestions faithfully and consistently, *every day,* you will have no need for a "spring tonic."

GEORGE B. LAKE, M.D.,
Highland Park, Ill.

Second Prize Letter—$10

TO KEEP fit in winter I have found four things essential: fresh air, exercise, suitable diet and a daily sponge bath with cold water.

After the first snowfall, I put on my snowshoes and go for a tramp in the woods. The only tracks visible today are those of the red squirrel and, in one place, the tiny footprints of a mouse. The larger animals hesitate to come out after the first snow, but later in the season, it is entertaining to follow the trail of

the fox, rabbit, or deer. Seldom do I catch a glimpse of the animal that I am following, but it is amusing to pry into his affairs as recorded by the marks in the snow. What an unexpected delight, after tracing the meanderings of a rabbit among trees and bushes, to see him pop into his hole.

When the field, which slopes from the house to the woods, is covered with a shiny, hard crust, I get out my sled, an extra size for grown-ups, and go coasting with my son and daughter.

I am provided with skates, too, ready to enjoy the ice on a neighboring pond and, later, the river, when long continued cold has made it safe.

Sleighing is another of our out-of-door pleasures, and when the roads are blocked to autos, it is a satisfaction to feel that now our old horse and sleigh may have their turn in the use of the public highway.

Sometimes it is impossible to get out every day, as I like to do. Then one good way to have both fresh air and exercise is to make the beds with windows wide open, no matter how low the thermometer.

The windows down stairs are opened every morning and these rooms given an airing, as well as the chambers above.

In winter we plan to eat plenty of fruit and vegetables. We have baked apples or apple sauce twice a day, or sometimes, to give variety, a jar of pears, peaches or berries from the store in the preserve closet.

As a special treat, oranges or bananas may take the place of these home-grown fruits. Every day we have for dinner one vegetable besides potato.

A cold sponge bath with brisk rubbing the first thing in the morning is, to me, very invigorating and a great help in preventing colds.

In these ways I have found it possible to keep healthy and happy during the winter. I very seldom have a cold, and when spring comes, I do not need a tonic.

A Farmer's Wife,
Hampton Falls, N. H.

Third Prize Letter—$5

A PREDECESSOR of Billy Sunday was struggling to save souls. A recalcitrant old sinner insisted that he was "not fit" to join a group at the mourner's bench.

"Come up and get fit," called out a brother from the Amen corner.

"Aw, I'm not fitten to be fit," wailed the guilty one.

And so it is with men and women who are not willing to so plan their lives as to get themselves fit, morally, mentally or physically. They are not "fitten to be fit." Naturally it is harder in winter to keep one's self in good condition, but it is worth the trouble. It requires only the establishment of certain health habits necessary during the winter months when one is shut in, is working more and playing less than during the open summer.

Some people protest against becoming the victims of habit, though they might change their minds, should their watches or their morning trains cease to keep regular habits, the sun stop shining, or this world stop revolving on its axis. Good health is largely a matter of habit and I have found it as easy and far more satisfactory to form good habits as bad ones. Good habits soon become second nature.

Bathing: Bathing adds greatly to one's comfort and well-being. The daily plunge of summer is not always convenient in cold weather but I have found that a daily cold sponge to the waist, with one or two warm cleansing tub baths a week, keep the skin in good condition. In a windy, dusty or smoky place, cold cream also adds greatly to the care of exposed parts of the body.

Internal bathing is perhaps as important as external bathing. I awaken on a winter morning dull, drowsy, with no appetite, even with a dark, brown taste in my mouth. I am reminded of the hearty dinner eaten the night before at the end of a strenuous day. How would you like to eat your breakfast from the container of a mass of pulpy food kept warm and moist and fermenting all night?

Drink a generous glassful of water, hot or cold, with a few drops of sharp, acid lemon or grape fruit. This will cleanse your stomach and start the natural digestive juices, and by the time you have had your bath and your daily dozen, you will be clamoring for your breakfast, not because the clock says 7:30 but because inside information announces "Ready."

Clothing: With all the good looking sport clothes to choose from, I am happier, more comfortable and better dressed this winter than ever before. I have gay woolen hose, broad heeled brogues, an open throated sweater and warm gloves. On stormy days I have my knickers. Never again will I be found mincing along in high heeled toothpicks or suffocating in tight collars, corsets and trailing draperies.

Exercise: Don't forget that in winter you need daily exercise to take the place of tennis, basketball and long summer hikes. Ten minutes night and morning will keep you feeling like a two year old. Housework also is A 1 exercise. Try it.

Sleep: Winter days are so short and strenuous that bed time comes earlier than in the long summer days. A little planning and determination will secure eight hours sleep without interfering with a reasonable amount of play.

Food: I have left food until the last for it is perhaps the most important of all considerations for keeping fit in winter. Especially is

this true if one lives in the country. Here it requires planning a season ahead to can, dry and otherwise conserve the necessary fruits and vegetables to tide one through the winter months. But the country woman has her own coarse, laxative cereals and she is spared the constant and alluring temptations of the fancy pastry shops and the demoralizing parties which ensnare the city woman to her ruin.

By following the above simple, systematic schedule I keep myself "fitten to be fit" in winter.

F. S. B.,
Helena, Mont.

Honorable Mention

HOW I keep fit in winter is a story of commonplace daily habits. For five years now a periodic health examination has shown me where I stand, physically.

To get up each day at a definite time, attend to the calls of nature, get a cold bath and rub-down, spend a few minutes in exercises prescribed for *my* needs, drink a glass or two of water, eat an apple, get into comfortable clothes and low-heeled shoes that fit my feet—all this is routine that takes care of itself and does not interfere with meditation or the humming of a cheerful tune or two. It makes me ready for my substantial breakfast of fruit, cereal, cream, bacon, hot cakes and coffee.

After breakfast I get a brisk half hour's walk and then comes an eight-thirty consultation hour, for I am physician in a woman's college. No two days are alike for me except in demands on patience and time through sick calls that need not have come if young heads were wiser, and "sundaes," "hot-dogs," high heels and late hours less known and loved.

Better friend than medicine for me, in the midst of morning and afternoon work, is my glass of water. By noon I am ready for my lunch of soup, salad, bran muffins, buttermilk and fruit. Another half hour's walk finds me ready for another office hour mainly spent in trying to convince youth that there are, in right living habits, better cures for colds and headaches than aspirin.

Believing that my job stands for big things in spite of discouragements and that my work is only effective as I practice what I preach, I come to the end of an eight hour day ready for another short walk or rest before dinner. I count myself fortunate to sit down each night in congenial company before a table bountifully supplied with fresh vegetables, even in winter; salads; a meat, fish or fowl course, and some foods prepared with milk.

If, after a strenuous day where teaching and visiting the sick are added to my other duties, I still feel "fit" at night I sally forth for recreation, but, if exhausted, experience has taught me that crowded movies, theaters and concerts are not for me. A comfortable couch and my books are better company on these "tired" nights, when going early to bed with open windows gives me my best preventive for all the "ills that flesh is heir to."

On Saturdays I have cross-country hiking in congenial company. I have found that it pays for health of body, mind and spirit to keep Sundays on a higher, different plane.

Though I never learned Mrs. Peterson's Child Health Alphabet I know the last letter of it:

"Z is the Zest
Which Health gives to Life,
Now march for it children,
With Drum and with Fife."

S. ELIZABETH VAN DUYNE,
Baltimore, Md.

Honorable Mention

I WANT to tell you how I keep well in winter, and the reason why I never have to worry about a "spring tonic."

I work eight hours every day except Sunday. I mean that I work and work unceasingly. But when I do get out of the office I have my fun. I always walk home from the office, a distance of about three miles. I must take my active exercise, and for fear I'll get off in the car and be tempted to postpone this part of my daily routine, I get it at the first opportunity. I play golf once or twice a week, usually Saturday afternoon, and I rarely let a week end pass without getting out to hunt or fish.

With all this work and exercise I find no difficulty in sleeping every minute of my eight hours allotted. I have become so accustomed to the sleeping porch that I must use it all winter, regardless of the amount of covering that I find necessary. If I do ever have occasion to be away from home, I am always solicitous about having a well ventilated room.

I eat my regular "three square meals a day," and while I'm not a fanatic on the subject of a balanced ration and vitamins, I have learned from my own experience that I thrive on a varied diet in which highly seasoned meats and pastries are sparingly present. I have a pronounced sweet tooth, but I don't allow myself to munch at candy between meals, and I have cultivated a great liking for fresh fruits. So in this way I get the vitamins and balanced diet without much worry about it.

The old saying, "Cleanliness is next to Godliness," was never more true than today. I never miss my morning bath, a warm one, followed by a tepid or cold shower, and I feel so fine that I'm gladder every day I'm living. I never know what it is to have a lazy, sluggish feeling, for I never allow myself such an opportunity. I get this invigorating bath as soon as I awaken. It may not be necessary for every one to take the daily bath, but I feel so much better for it that

I wouldn't deprive myself of it for a mint of money.

I find that eating regularly of proper food, avoiding large amounts of sweets and pastries and partaking freely of fresh fruits and salads and quantities of water will tend to cause free elimination, so that the need for laxatives is rare indeed.

Now, Spring Tonic fellows, I believe you will understand that I live very nearly the same in winter as I do in summer, avoiding the same indigestible foods and catering to those that are conducive to health; exercising, perhaps more freely; and getting as much fresh air, but using moderation in all things.

I feel that whoever carries out this scheme will feel better when winter is over. He can't help it.

W. T. B., Jr.,
Baton Rouge, La.

Honorable Mention

An hour of daily exercise or six months in a sanitarium—which?

IT HAS been my experience that keeping fit in winter is the result of following a few common-sense, well known and oft-repeated laws of nature; so to those who had hoped that this contest would produce a new science of health or a magic elixir of life, I am afraid it will be disappointing to note that my rule number one is headed, Outdoor Exercise.

I have found that walking, combined with deep breathing, is most practicable for an all around exercise, snow or blow notwithstanding. Skating is an excellent variation, and any one who can walk can learn to skate. The "daily dozen," performed before an open window, the various mechanical exercises and gymnasium work are good health builders, but to my mind there is no substitute to be offered for a brisk, out-of-door walk in a zero temperature.

An apple a day keeps the doctor away.

After exercise I place Diet as next of importance. In this day of rapid transit, green vegetables and raw fruits are no longer a rarity or a luxury at Christmas time. Balanced ration therefore becomes as simple a matter in January as in June, and in my own case a generous amount of fruit and vegetables has not only held my weight up, but increased it.

It is man's inheritance to be free from sickness.

My third rule has to do with Bathing, external and internal. Water. Plenty of it. I believe the morning plunge is usually recommended, but I have found that a bath before bed time has value as a soporific. Water, internally, is as necessary in winter as in summer and a glassful at certain convenient intervals is a habit easily acquired.

The air in most of our rooms in winter is drier than that of the Sahara.

Ventilation is my next point. A temperature of 70 degrees with a relative humidity of 40 per cent. is my standard. Undoubtedly most of our rooms are too hot, and a room whose windows never steam or freeze is without question too dry. Windows up at night too! "Time makes ancient good uncouth," says one philosopher and nowhere can this be applied more truly than to the old idea that night air is bad air.

What will it profit a man to gain the whole world and lose his own—health?

Finally, an occasional checking up on one's self by a physical examination is recommended. I do not look at this in the light of borrowing trouble, but to turn again to the epigrammatists, An ounce of prevention is worth a pound of cure.

E. A. Bear,
Davenport, Iowa.

The subject for the April prize letter is

HOW I CHOOSE MY VACATION

Letters should not exceed 500 words in length and should be written legibly on one side of the paper only. They should reach the contest editor on or before February 20, 1925.

Cash awards will be given as follows:

First prize letter, $25.
Second prize letter, $10.
Third prize letter, $5.

Letters should be addressed to: Hygeia Contest Editor, American Medical Association, 535 North Dearborn St., Chicago.

Venereal Disease in Industry

HOMER K. NICOLL

WHEN we include among the many problems of industry the health of the employee and his family, and his continuous employment at a high rate of efficiency, the relation of venereal disease to industry becomes real and apparent.

Venereal disease is a cause of disability that requires for its inception no complex elements of race, season or weather, but only simple contact. It is capable of producing every gradation of effect from slight discomfort to hopeless insanity.

It may make of the workman's wife a sterile invalid, of his children and even grandchildren incurable idiots, and of his fellow employee a new victim with the same possibilities of evil as himself. It may produce long periods of unemployment or low efficiency and, in its later and more insidious forms, may so weaken the employee's physical and mental powers that when opportunity for advancement arrives he is found wanting. Often he becomes a premature pensioner.

The ravages of venereal diseases are equally widespread among the general public, but the economic effects are not fully appreciated because there is no way even to approach an estimate of the losses caused. In industrial concerns it is possible to measure in dollars and cents at least a portion of the loss, such as that incurred in disability. The steadily increasing portion of their budgets that must be expended for sick benefits, pensions and insurance against compensation claims makes it imperative that they study fully all causes of disability and especially those which are as unnecessary, preventable and remediable as the venereal diseases.

Society is insisting more and more that industry must, by sufficient wages, compensation and other similar measures, insure the continuous welfare of its employees and provide for those disabled in the service. It should then be willing to aid in every way in maintaining a high standard of efficiency and physical health among these employees and in limiting the losses due to venereal as well as all other types of disease.

Moralists Have Brought On Secrecy

The problem has been greatly complicated in the past by too much consideration of its moral aspects; the result has been to obscure the purely medical and economic aspects. There was formerly such a zeal for punishing the assumed moral lapse that the real physical disease was neglected, and the ultimate results to industry itself and to the community as a whole were not even considered.

This same attitude has caused the concealment of a large percentage of all these infections among employees, so that the statistics on the subject are notoriously unreliable. The employee who knows that the reporting of a venereal infection will be followed by a moral lecture, suspension or discharge from his position with loss of any sick benefits, and the placing of a large black mark against him on the records of his employer, can hardly be blamed when he attempts to evade all these punishments by concealment of his condition.

Let us consider the more frequent effects of venereal disease on the individual worker and his associates and the way in which these effects may perhaps be obviated.

Venereal disease, for purposes of our discussion, may be limited to the specific infections of gonorrhea and syphilis. The other venereal infections are not of such frequent occurrence or severe effects that they should be considered in the same category.

Gonorrhea is an infection by an organism known as the gonococcus, which is usually localized in the genital organs, but may spread to adjacent structures in the body and become generalized, involving the joints, heart valves, structures of the eye and other tissues of the body.

Syphilis is due to the spirochaeta pallida and may originate as a local infection on the genital organs or on any exposed portion of the body. It spreads rapidly by the lymphatic and blood vessels and in a short time every tissue of the body is infected.

In each disease the body tends to develop a resistance to the infection which modifies its course and effects. Gonorrhea is usually overcome by this resistance and eventually eradicated, although not without leaving a trail of destruction as it goes, but the body is usually unable to destroy the spirochete of syphilis without the aid of powerful drugs, and the untreated syphilitic may remain infected and infectious to the day of his death.

A differentiation is usually made between the acute and the chronic forms of these diseases and, while the division is quite arbitrary, nevertheless it has a certain bearing on their influence in these industrial problems.

In acute gonorrhea the working efficiency is cut down 25 or 50 per cent. There may be complete disability but co-workers and other

associates are subject only to slight danger of infection. The greatest danger is to the marital partner and to the future health of the patient and this partner. Such employees must at times be kept from work, but they require, most of all, instruction in the dangers to their own family and the necessity of thorough treatment to effect a cure.

In chronic gonorrhea of man, there may be severe disability or decreased efficiency from lesions of the joints or of the eye, resulting in serious permanent defects of mobility and vision. With women, chronic gonorrheal infection causes its greatest damage in sterility, extensive disability from pelvic disease or operations, and the possibility of blindness to the newborn infant. Gonorrhea in women is difficult at times to diagnose and still more difficult to eradicate. The symptoms are such that the patient is only too apt to rely on laymen's advice or patent remedies and to delay competent medical examination and treatment until irremediable damage has resulted.

Acute syphilitic infection in either sex may produce very little diminution in efficiency and no disability, but it may be a most serious menace to those with whom the infected come in contact. Lesions of the skin and of the throat, mouth and lips, at this stage of the disease, contain innumerable organisms which, if transmitted to any small abrasion or even to the unbroken skin of another individual, may convey the disease. These patients require temporary suspension from work. This need not be long, if vigorous treatment is instituted and continuous observation and treatment are kept up for a long period.

Chronic syphilitic infection may produce very serious loss of efficiency and long or permanent disability, but with only slight danger of infection of fellow employees or family, excepting the marital partner.

If we are successfully to combat the incidence and effects of venereal disease among industrial workers, we must recognize the sociological elements which lead to the spread of these infections, we must know promptly the fact that infection has occurred, and we must accomplish the immediate and effective treatment of the individual.

Deterrents to Promiscuity

It is not possible here to go into much detail as to the sociological elements in the spread of venereal infection. A high degree of general intelligence, which aids in the avoidance of exposure and in prophylactic treatment, is of great importance. The average mental level of the prostitute is very low and her greatest appeal is to the ignorant and more or less feebleminded.

Permanent employment exercises a restraining effect since the permanent employee usually makes friends and contracts home ties and is not so greatly subject to the temptations of loneliness. A fair wage will undoubtedly save many individuals who are otherwise led to occasional prostitution by lack of necessities or of simple pleasures.

Opportunities for physical exercise in the form of games is well known to have a helpful effect on the venereal problem.

Alcohol has always been a prime factor in venereal disease, since its use not only removes the inhibition against promiscuous sexual indulgence, but blinds its victim to the wisdom of prophylactic measures. Finally, education as to the character and seriousness of venereal disease and the necessity of sexual restraint must always be of prominent importance.

Whatever these restraining influences may be, they appear to have produced a definite effect during the past ten years and the incidence of venereal disease has undoubtedly decreased. Military authorities give the credit to army training in abstinence and prophylaxis, clinicians to improved methods of diagnosis and treatment, public health officials to educational propaganda, and prohibitionists to the Volstead act. Possibly each has had a share in the advance.

The larger portion of the actual and potential loss and damage due to venereal disease can be avoided in one way only; that is by early and efficient treatment of the infected person. This requires a knowledge of the fact that infection has occurred and brings us back to the most terrible complication of the venereal disease, secrecy.

Fear of Discovery Leads to Quacks

Venereal disease may well be likened to the monster of mythology that was of tremendous power and malignancy in the dark, but when dragged into the light was destroyed. The victim of a venereal infection, especially if very young, too frequently hides the disease for weeks with either no treatment or with self-administered "patent medicines." Even when a physician is consulted, fear of exposure often drives the victim to the quack or charlatan instead of his regular physician, with resulting poor treatment. Many physicians demand cash payment of fees from venereal cases, and lack of ability to make these payments delays treatment. Medical fees are often excessive in venereal cases and more or less veiled threats of exposure are used to enforce collections. If we then add to these deterrents another in the form of discharge or suspension from employment, the result is a terrible physical and mental strain on the already sick individual.

Once it is known that the disease exists, the problem is simplified but still unsolved. How is the individual to obtain sufficient treatment, within his means, and who will make sure that

he persists in his treatment until a cure is effected? The treatment of gonorrhea does not usually require an overburdening expenditure, but unless a syphilitic infection is taken early and partially aborted, its thorough treatment by the average physician requires a sum of money which is beyond the means of a great mass of industrial workers. The cost might vary from $300 to $1,000 or more, and must usually be paid at the time of treatment. Some way must be found to provide this service at a figure within the patient's ability to pay, and many efforts are already being made in this direction.

The service is one that should be rendered by the family physician, whenever possible, for he is the one who can most accurately control the home treatment and conditions of the patient; very often he will accept smaller fees and retain the patient. Dispensaries, municipal hospitals and privately conducted venereal clinics or health institutes are available to a limited number, and in the larger industrial concerns the company medical service is extended at low cost to employees.

Facilities for treatment are steadily becoming more ample and will soon be able to meet all demands. A more difficult matter is to obtain continuity and persistence in treatment. In syphilis, particularly, where all symptoms may disappear after a short period of medication, it is often difficult to make the patient understand that serious injury to his blood vessels and nervous tissues may be going forward without a single pain or objective symptom of any kind. He is prone to let well enough alone and neglect further treatment, and it is only by steady pressure and cooperation that the necessary result can be attained.

Some General Recommendations

The conclusions of this article can be summed up as follows:

The occurrence of venereal disease among industrial workers should be opposed by educational measures, by provision for physical exercise and social recreation and by endeavoring to maintain as high as possible the standard of living and of intelligence.

Victims of the disease should be encouraged to make their trouble known and should be aided in their natural desire to avoid general publicity. They should be subject to discharge, not for having the disease, but for concealing it. They should only be suspended when and as long as it is necessary to protect their fellows, or to give them proper treatment, and should not be deprived of welfare or sick benefits ordinarily entitled to them.

They should not be lectured on the moral questions involved, since they usually realize fully any moral delinquency, but they should be given instruction as to the physical possibilities of the situation. They should be aided and encouraged to take prompt and vigorous treatment and should be kept under observation until cured.

The active prosecution of these methods will unquestionably serve to reduce the prevalence of venereal diseases, and of their fruits of poverty, sterility, blindness, insanity and death.

Dr. Harvey W. Wiley Honored

IN RECOGNITION of his public and professional service in hygiene, public welfare, chemistry and agriculture, fellow scientists of Dr. Harvey W. Wiley, at a recent banquet in Washington, D. C., presented him with the bronze medallion pictured here.

Replicas of the medallion are being widely distributed. On one side of the medallion is a likeness of Dr. Wiley in relief, and the other side bears the formal inscription: "Presented to Dr. Harvey W. Wiley on his eightieth birthday, Oct. 18, 1924, at the fortieth anniversary of the Association of Official Agricultural Chemists. In recognition of his services to chemistry, agriculture, hygiene and the public welfare."

The original medallion measures ten inches in diameter, but the small replicas in medal bronze are available for such of Dr. Wiley's friends and admirers as may desire to honor him for his services to the public and to have a permanent likeness of him. The replicas, when placed in a suitable supporting frame or bracket, are said to make pleasing desk ornaments. They may be obtained from Dr. W. W. Skinner, assistant chief of the bureau of chemistry, Washington, D. C., for $5 each.

What Does One Do for Pimples?

ONE OF the commonest and often most distressing maladies of adolescence is the disease called acne, better known to the public as "pimples." As a rule, it is first seen shortly after puberty and eventually disappears spontaneously.

On the face the eruption is not often seen after the twenty-fifth year though on the back and chest it may persist much longer. It affects both sexes equally and occurs in rich and poor alike.

The disease appears to be an infection due to two separate germs, but there is still some difference of opinion regarding their action. Poor general health, anemia, indigestion and constipation, not to mention lack of ordinary cleanliness, may all predispose to acne though they are not the essential causes of the disease.

The appearance of acne with its "blackheads," pimples and small abscesses is well known to every one. The majority of young persons who suffer from this disease have, in addition, an abnormal oiliness of the skin and a sallow complexion.

Acne can hardly be called a serious affection. It causes no pain or even itching, but it is often the source of a great deal of embarrassment and may even interfere with the earning capacity of its victim. If we include every one who has occasional blackheads or a few pimples, acne would undoubtedly be the commonest of all skin diseases. While the cases of moderate intensity are fairly common, the severe ones, which lead to disfiguring scars, are fortunately much less frequently seen.

Diet Should Be Simple

Treatment of acne is chiefly local, but the disease may be favorably influenced by attention to general hygiene. The disease cannot be cured by diet alone, but its intensity can be lessened at times by dietetic measures. It is common knowledge that overindulgence in candy and sweets will often cause an outbreak of acne, though it is equally true that the strictest diet will not alone eradicate the disease.

The diet should be simple and wholesome, avoiding an excess of sugar and starchy food. The habit of eating slowly, so difficult for the average American, is also of benefit. Avoidance of constipation by taking proper exercise, drinking water freely between meals and the free use of fresh fruit is also advisable.

Local treatment of a mild case of acne consists mainly in the vigorous use of soap and water and massage. It is hardly necessary to say that the use of greasy cosmetics for a skin that is already too greasy should be avoided. If an ordinary toilet soap does not prove satisfactory, the well known tincture of green soap may be used. To obtain the most vigorous action, the lather should be rubbed into the skin, allowed to dry and remain for an hour or so at night. If this induces too much dryness or scaling, a little cold cream can be temporarily used.

For massage nothing is better than vigorous pinching of the skin between the thumb and forefinger.

X-Ray Is Used in Treatment

Acne can often be successfully treated by a dull curette and proper surgical opening of the pimples, but this should be done by the physician. For cases of moderate or great severity the best treatment is undoubtedly by the x-ray.

This valuable agent should only be used by physicians who are thoroughly conversant with its action and who are constantly treating such cases. If properly used the x-ray is of great value, but in unskilled hands it may prove a dangerous remedy.

Finally, vaccine therapy is mentioned merely in order to condemn it. Practical experience has shown this method of treatment to be of very limited value in acne.

Protecting the United States from Disease

Early History of National Quarantine--Part II

H. R. CARTER

THE direct money cost of quarantine, fees and services rendered; the injury to vessels and their contents from quarantine measures such as disinfection; the inconvenience to passengers—all are obstructions to commerce, and sometimes serious. In general, however, they fade into insignificance compared with the delay of the ship.

A day's demurrage of a large steamship, even in 1893, was at times a loss of $5,000 and in old times nine tenths of the losses to commerce were due to the delays from quarantine. Very obviously, then, to avoid delay to a ship is, next to safety, the prime requisite of a proper quarantine. To this end we established quarantine stations in the track of vessels coming into United States ports, and instituted disinfection of vessels in the ports of departure in foreign countries. We were thus able to count the days en route from the way station or from the port of departure, since they followed completion of disinfection, as days in quarantine.

This measure was begun for yellow fever at Dry Tortugas in 1894, and vessels bound to Gulf ports were saved from one to four days en route. In 1899, at our floating plant in Havana harbor, vessels for the United States were disinfected, and all the time from Havana to their ports of entry saved them. In 1893, in the measures to prevent the introduction of cholera from Europe, not only were the vessels and their materials, in this case mainly provisions and drinking water, cleared of infection, but their passengers and crew were detained out of contact with infection and not allowed aboard until the period of incubation had passed. Consequently the ships from European ports bound for the United States, some from ports virulently infected, as Naples and Hamburg, were clean ships, and with no one aboard in the incubative stage of cholera. There was thus minimum risk to the United States, and minimum interference with commerce. I say minimum risk instead of not any risk, because we did not then know of the existence of cholera carriers, persons who remain well and yet are infected, and can infect others, with cholera.

"Only Advance Since Venetians"

These measures, the disinfection and prevention of infection of vessels at foreign ports, have been much extended, and are indeed the key to the present maritime quarantine of the United States, increasing the safety of the vessels and of our own ports and enormously lessening the time lost, and hence the cost to the vessel. This is credited to us by Kitasato, the noted Japanese sanitarian, as "almost the only advance in maritime quarantine since the time of the Venetians."

It may seem that I have put entirely too much stress on the quarantine of the Gulf of Mexico. The tonnage handled there was inconsiderable compared, for example, with that going into New York. From the sanitarian's point of view—the danger averted—the balance was the other way. Our clientele was a concentration of the infection from the tropical trade of America, sailing vessels mainly, which were manyfold more dangerous than steam ships. In the one year 1894 at the Dry Tortugas, then substituting Ship Island, I treated twice as many cases of yellow fever and one more than were received at all the other quarantine stations, municipal, state, and national, in the entire United States.

It seems to me to be no small compliment to the administration of a service that its work in every emergency, when there is confessedly need of prompt and effective action, should be followed by legislation to extend its work. The duties and functions that have been added to those of the Public Health Service following its successful fight against each outbreak of yellow fever in the United States surely is reason for pride. The maritime quarantine has been made a national quarantine, administered entirely by the United States Public Health Service. The entire country is protected by this agency, which is responsible to the entire country, and the expense is appropriately borne by all the states. The regulations are uniform, as far as varying climatic and biologic conditions of the ports allow. No port can now claim that a rival port, for the sake of attracting trade, is taking risks in her administration which imperil not only herself, but also all of her more conscientious neighbors.

Between Scylla and Charybdis

Maritime quarantine continues to sail between Scylla and Charybdis. It aims to give sanitary safety and to avoid obstruction to commerce. Both it cannot do absolutely.

It is fairly easy to attain a high degree of sanitary safety if one is willing to sacrifice foreign commerce without limit—though even then the

smuggling thus caused is to be considered. To conduct quarantine so as to attain a sufficient and very high degree of sanitary safety, with minimum obstruction of commerce, is a far more difficult problem, and to solve this problem has been the aim. Sanitary safety, of course, comes first, but not to obstruct commerce is a very close second in any proper system of quarantine.

Knowledge of the existence of cholera carriers presented another problem and rendered it necessary to take additional precautions during the outbreak in eastern and southern Europe in 1910 and 1911. The finding of some cases of cholera in the early summer of 1911 among immigrants recently landed in Boston and New York led to examination for carriers aboard vessels from infected ports. This was a task of considerable magnitude, especially on immigrant vessels, and the Public Health Service gave the needed assistance to the stations of New York and Boston that were receiving such vessels. Otherwise it could not have been done.

Anticipating that such an examination might become necessary, I had brought back the preceding year from the imperial laboratory in Berlin the material necessary to make these examinations quickly. Our laboratory then made the amount needed. This was invaluable, enabling the examination for carriers to go forward rapidly in the summer of 1911, with minimum delay to vessels. A considerable number of carriers were found, removed from vessels, and detained until free from infection.

Of new laboratory methods of rapid diagnosis, as shown by the examination for cholera carriers in 1919 and the Weil-Felix test for typhus, and the use of new physical agents of disinfection, such as the recently developed cyanogen chlorid gas, the Public Health Service has been prompt to avail itself, and every method which would increase safety, lessen delay of vessels, or diminish injury to their contents has been employed.

Disinfection by Steam Instituted

The use of "flowing steam," that is, steam going into and out of a steam chamber freely as compared with steam turned into a closed chamber under pressure, was instituted at the Chandeleur station in 1890, and its power to penetrate fabrics and bedding investigated, appreciated and reported. Some years later the Germans used "streaming steam" and claimed it, in good faith I believe, as original. The steam chambers evolved by the Public Health Service, with their arrangements for rapid changes from vacuum to hyperpressure and for rapid closing, gave us unquestionably the most efficient, least injurious, and most rapid method of using steam in disinfection. Steam is far less useful in maritime quarantine than it was at one time believed to be.

The extensive development of the use of cyanid gas in vessel disinfection by this Service—it was introduced, I believe, for this purpose by the Cubans at Havana—has been a real advance. By the destruction of rats, fleas, lice, and mosquitoes, the quarantine against plague, typhus, and yellow fever has been made more efficient, less injurious, and shorter than was possible with the agents used until that time. Indeed, the gas is absolutely noninjurious to fabrics and bright colors—sulphur is not—and its use lessens the detention of large vessels sometimes by a full day.

In comparing systems of quarantine, the danger averted must be considered an asset (for example, there would be no danger from the admission of a patient with yellow fever into a cold country, there might be much danger from his admission into a hot country) and the cost of quarantine, that is in the obstruction to commerce, a debit. The ratios for these for any system is a fair measure of its excellence. I know of no maritime quarantine in which this ratio of the danger averted to the obstruction of commerce is as great as that of the United States at present.

Naturally, the authority for a national quarantine system is contained, by implication, in the federal constitution. Whether it would have been better if some clear thinking statesman had provided for it explicitly in that instrument may be a question. We had then quite surely escaped some epidemics and much unnecessary obstruction to commerce. But it is not easy to predict all of the consequences which might have followed from its early institution. In spite of some very obvious errors, it may well be that the maritime quarantine of the United States evolved from municipal to state and then to federal management since the result is better than had it originally been established on a more logical basis.

Life at Quarantine Stations Hard

Life at Ship Island was sordid and hard, hard in itself, and the harder because we were not accustomed to it. What bore hardest was the ever-present anxiety lest some error in administration allow infection to get ashore. Especially we feared and guarded against communication of the vessels in quarantine with the small fleet — bum boats, boarding house runners, a smuggler or two, the kind of water pirates that generally infest shipping — which hovered just outside the quarantine limits. With our present knowledge that yellow fever is not conveyed by material, we know that much of our anxiety was unwarranted, but it was none the less real.

The station was moved from Ship Island to the Chandeleur Islands in 1889. Its isolation there took away a great part of our anxiety about communication between ships in quaran-

tine and the mainland. It was eighteen miles farther out in the Gulf, across much rougher water, and out of the track of small craft.

During the quarantine season, May 1 to November 1, we received two mails a week at the Chandeleur station, when also we received fresh meat and occasionally vegetables. These things were brought out and put on a float about a mile from the station; the sloop or tug from the mainland took the mail from the station left there—nothing but letters was allowed to go ashore during the quarantine season—and we got th provisions and mail when the sloop had left.

During the winter at Chandeleur, we probably averaged two mails a month, as the weather allowed, and between times we lived on salt meat. The longest that I remember being there without communication with the shore was from December 30 to March 6, when but for fish we would have had a hard time. This time one seamen and I made the trip to the mainland, some thirty odd miles, in a whale boat in order to learn what the matter was, and restored communication with our base.

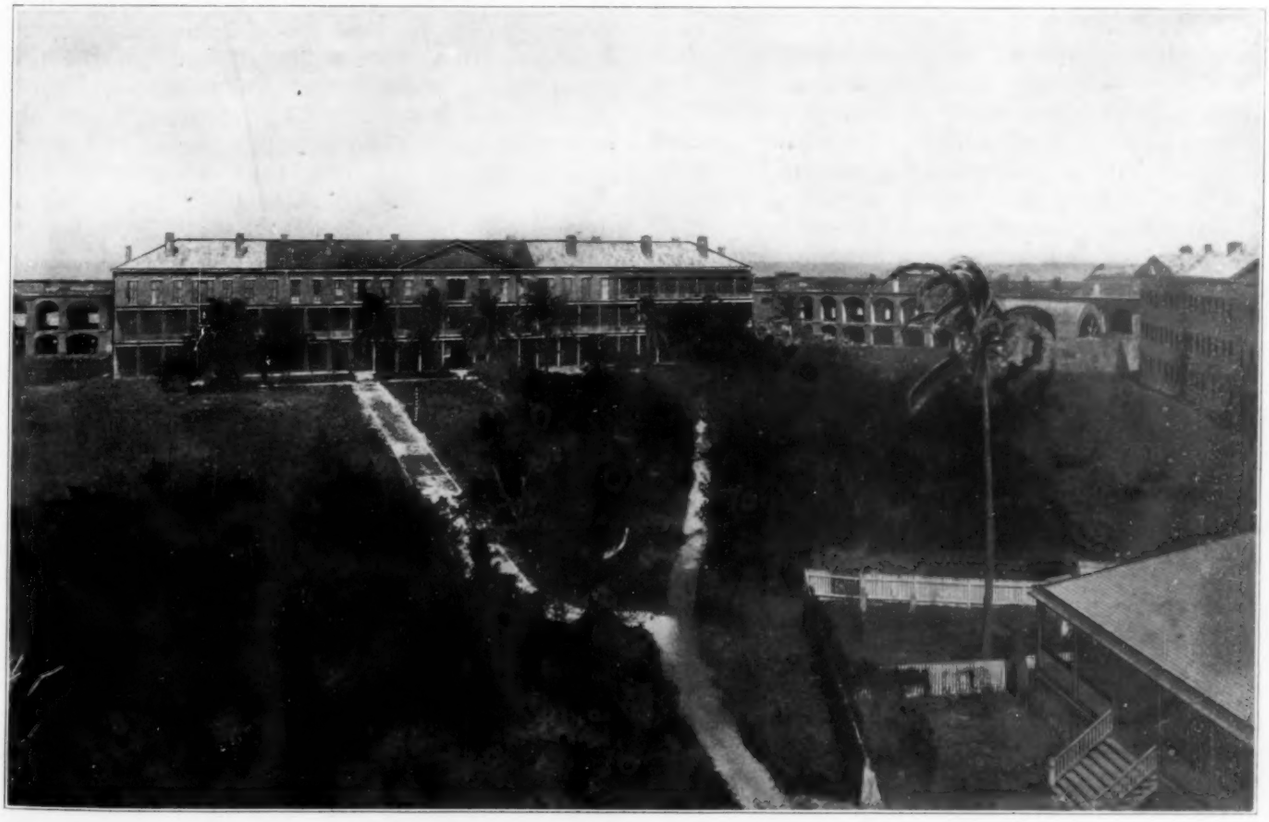
The station at Chandeleur was much pleasanter than the one at Ship Island. Here the life was mainly on the water. There was not much land, only a salt marsh and a sand beach. The houses were built on piles and, at high tide, the presence of porpoises under them was announced by bumpings against the floor—always exciting, if at times disturbing. The children enjoyed it tremendously, but the "lady of the house" sometimes became indignant.

One of the houses had a little wharf to a small island, only large enough for a chicken coop, which when submerged in high tides required an intermittent-life saving organization for the rescue of its occupants as they floated by, looking utterly foolish and helpless. The other houses merely had steps from the water to their landing stages. I planted a small oyster bed under my house.

When Hurricanes Came

We reported the station as safe under all conditions save for hurricanes. The department seemed to be upset at this exception, upset at our risk. We did not greatly worry about it. A hurricane came only now and then; we felt quite certain that the station would go when it did come; but the yearly risk from it was not much greater than seafearing men normally take, and for those of us not immune to yellow fever the risk was so much less than that from handling the infected ships—three of the four younger officers serving with me died from yellow fever—that it scarcely seemed worth noting.

The hurricane came in the autumn of 1893 and the station was wrecked. The old boatsmen, as had been planned, got in a whale boat and were able to reach a grove of myrtle in the marsh about a mile to the leeward. The grove



U. S. quarantine station at Dry Tortugas, Florida

broke the force of the waves and, by seamanship and hard bailing, the men outlived the storm. The doctor's house was only half upset and not washed away, and he got through. The steward and three other men would not trust themselves in the boat; the house they were in, the largest in the station, was overturned, and none of them was ever found. I had been relieved from this station nearly a year before this happened, but I got my hurricane — equally severe — at Tortugas in 1894.

The only serious risk that my family had from drowning while at Chandeleur—barring that naturally incident to the use of small boats in what was occasionally very rough water—was one night in the spring of 1890. It was too early for a hurricane, but there was a storm and very high water, and when it reached the floor of the house, I began getting the whale boat ready. My wife came down with a shawl over her head and asked what the matter was; she was told we were overhauling the lines of the whale boat.

She asked very quietly, "Why are you stowing the baby's milk things in it?"

The answer was, "Young woman, if you must know, the water is pretty high and we may have to leave the house."

She then helped us get things ready. This was the height of the water, however, and though it came in on the floor of the house, it did not lift the house off the piles.

It was not always monotonous at Chandeleur.

Station Became Bird Refuge

The little bight of deep and placid water, around which the three buildings at Chandeleur were grouped, presented at times almost a picture of a Japanese water garden. We allowed no one to shoot any of the wild fowls in it and they, especially in the winter when things were very quiet, soon knew it as a refuge. The white aigrettes, the large blue cranes, loons, bitterns, and some species of duck, and even the white pelican, shyest of wild fowl, knew they were safe, and ornamented the water by their presence.

At the Dry Tortugas Bird Cay was made a bird refuge in 1894, some years before Mr. Roosevelt so named it, the first one proclaimed in the United States. We were able to keep away the egg gatherers only by pitching the tents for the yellow fever hospital there.

At Tortugas, we had steam communication—a tug, during the summer—but we received mail only once a week. We got ice there, but never more than the children could break up and eat when it arrived. We cooled the water, normally about 86 degrees, by putting it in porous earthenware vessels, "alcarazas," hung in the wind.

The life at the quarantine stations was rather peculiar for the landsman. We were more or less on land, but the life was rather that of the seafarer. My first appreciation of this fact came with watching one of the men while he quietly sat during a moderate rain under the eaves of a porch with the water running down on his oil-skins, when he might just as well have moved two feet and been under shelter. Being wet was the same to him as being dry.

Some of the men were amusing in their simplicity. One of them, the "crew" of our sloop, a Scandinavian, after looking through the field glasses, reported, "The Crown Prince, she's in, sir," referring to a vessel about eight miles off.

I agreed, and asked if it made any difference.

He said, "My bruder, he's aboard her."

We ran eight miles up the wind, which is more than sixteen miles in reality, luffed up under her stern, and hailed the ship.

When the brother came on deck our man greeted him, "How are you, Oscar?" received the response, "How are you, Alfred?" slacked the main sheet, spun the wheel round, and headed for the station. They had not seen each other for four years, but were satisfied with this greeting and very much gratified as well.

Tombstones Provided

We never knew quite how anything would strike our seafaring men, especially the Scandinavians. A big Norwegian at Dry Tortugas who was convalescing from a very severe attack of yellow fever evidently felt real gratitude, and was rather at a loss how to express it. He had probably not been accustomed to much attention. In front of the tent in which he had been treated was an old tomb stone used as a stepping stone. When the man first sat up, he saw the stone, and asked in a sing-song tone, "Is that the kind of rock you put on for dead men?"

We answered, "Yes."

He marveled, "And that's my name on there! Lord, I never see such a well-fixed place; you is got everything handy!"

Nor was heroism lacking. A Norwegian vessel, the *Magnolia,* leaving Rio de Janeiro with a crew of twenty-two, drifted into Ship Island with eight men on deck and two still sick. She had had twenty cases of yellow fever and twelve deaths en route. The log showed the death of the captain, of the first mate, and of the second mate, promoted in turn to command, then an entry by the third mate, acting captain:

"I am calculating and platting the whole course of the ship to Pensacola Light, so when I die the carpenter"—the next ranking man—"can take her in. He is not a navigator."

In a few days the entries were in the carpenter's hand.

Truly, to these men the ship was more than the crew; duty, more than life.

Making Water Safe for Swimmers

WILLIAM B. SHARP

THE old swimmin' hole had gained something of a reputation many years before hygienists first eulogized it. Its youthful discoverers did not bother to analyze the wholesome feeling aroused. Although they seemed to feel that a swim was worth the licking that might follow, the swim was not defined by them as a recreational health value. No thought of muscle building, motor coordination or stimulation of tissue by sunlight entered their minds.

City life, even more than rural, needs the benefits that swimming has to offer. Aside from the few with beaches, cities have no water in which people may swim. Many of the beaches, even, are unattractively littered with garbage and rubbish, or are made uninviting by petroleum floating in from oil vessels and other sources. The oil industry doubtless deplores this smudging up of bathers and willingly supplies gasoline to clean it off again, but it continues to spill oil. Such detraction from the popularity of what few beaches our cities have is unfortunate.

Keeping the Pool Clean

If communities without beachfront want swimming holes, they must make them and fill them with water. This sounds easy, but instead of solving the problem it only opens up difficulties. Such crowds of bathers appear that nuisances and dangers rapidly arise. It is disagreeable to feel hairs and other body débris float into one's mouth, or to know that a quantity of nasal and other discharges must be floating in the water.

Such matter collects as surface scum, as sediment, and as a suspension throughout the water. Pools thrown open to a congested public are neither pleasant nor safe under the simple operation of a rural swimming hole.

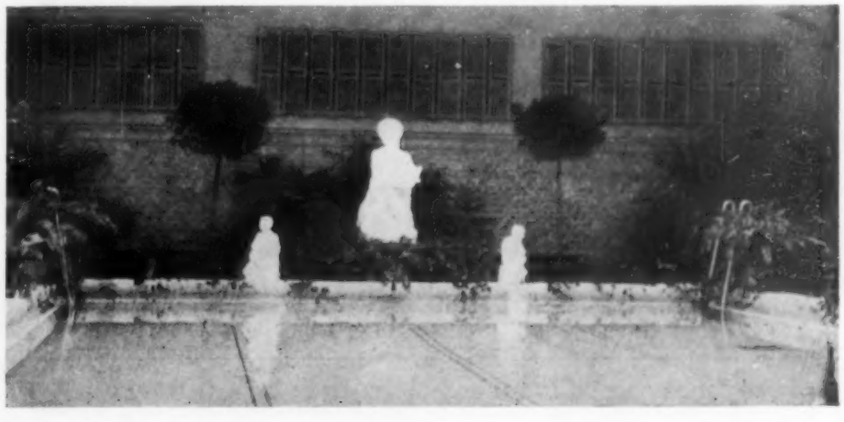
Nuisances can be abated by certain precautions. Bathing suits should be kept clean, and bathers should be required to take a shower with soap before going into the pool. Builders of pools should provide shower baths and accessible toilets.

Common use of any passageway by persons in shoes and by bathers is to be avoided, as dirt from the street thereby reaches the pool. So far as possible, any expectoration by those in the water should be into scum troughs. All regulations to these ends tend to help matters, but organic matter from bathers accumulates in spite of them.

Further devices must be resorted to for keeping the pool clean. The simplest is a frequent empty, scrub and refill. This is needed once or twice each week, or even oftener when crowds use the pool; it requires a good deal of labor and, when water is not abundant or needs artificial heating, proves expensive.

By another device the pool water need not be changed for months at a time, except for replacement of that splashed out or lost in cleaning. Instead, there is a more or less continuous process of removing accumulated foreign matter. Such sediment as collects is given a quiet day each week to settle and then is taken out by vacuum suction with a little of the bottom water. For draining away the surface débris, there is built at the water's edge a scum trough, extending all around the pool or at least the entire length of both long sides.

Clearing the water of its organic suspension is accomplished by continuous circulation through mechanical filters. Such filtration in some instances is continued for the entire twenty-four hours, and at all events daily for the period that the natatorium is open. Inlet and outlet pipes to filters are so placed in the



Rarely as verdant an attraction but always as clear as in this photograph is the Noyes Pool, University of Chicago. The pool is in the beautiful Ida Noyes Hall, a building for women.

pool as to stir and draw on all the water, and not leave parts of it untouched.

Alum added to water approaching the filter forms, with the alkaline carbonates present, a woolly mass, into which gathers some of the suspended organic matter; this is caught by the sand or whatever else is used as filtering material. The alum is preferably added in a tank, to give time for thorough precipitation and to prevent its coming through the filter in solution.

Water Contaminated by Disease Germs

Washings and discharges from a bather are not only a nuisance, but may easily contain disease germs. This possibility is the most urgent ground for requiring a preliminary bath, avoidance of dirty suits, and the building of scum troughs to draw away infective pus or mucus. There is ample cause for excluding any one with a discharging sore or other infection.

The membranes that cover the eyes and the under surface of the lids, that line the nose and extend into the sinuses, and that line the throat and extend through the Eustachian tube to middle ear, all prove susceptible to infection by swimming. Increased summer incidence of infections of these mucous membranes is often attributed by physicians to swimming.

Development of these bathing infections is due to other factors as well as contamination in the water. By washing away protective mucus, the water leaves the membrane less resistant. At indoor pools, resistance is lowered by persons who insist on sitting about in wet suits until they catch cold. The air about well managed pools should therefore be kept somewhat warmer than in the rest of the building—above 70 F.—and greater care should be given to its circulation. Climate permitting, the open-air pool is better safeguarded against chilling, and favors a stimulation of nutrition and resistance of body tissues by sunshine.

Infections of the skin are also transmitted at pools and beaches. Pus infection may develop about hairs, especially those of the outer ear, due to contamination in the water or to use in common with infected persons of suits or other bathing equipment. Fungous infection of the skin can be acquired similarly.

A third class of infections contracted through swimming is intestinal. In typhoid and paratyphoid carriers, germs breed about the digestive tract or other organs without causing symptoms of the disease. When such bacteria reach the body surface, some of them contaminate dirt collected there and stand ready to be washed into pool water. These can then get into the mouths of other bathers.

Another source for this class of germ is an impure water supply. Sewage or ship waste pollutes the shores about many cities and under certain tidal conditions gathers about beaches. Polluted water also is pumped into artificial pools.

Partial indication of a water's safety for swimming is the relative freedom from the demonstrable intestinal bacteria. Water used by too many or too dirty bathers, or polluted with sewage, becomes contaminated with some readily recognizable intestinal bacteria.

When Is Water Safe from Bacteria?

It is hard to say just how low in content of bowel bacilli water needs be. A drinking water standard, which permits only one of several 10 c.c. portions to show evidence of colon bacilli, is unnecessarily strict for swimming water. Many pool supervisors feel satisfied if not more than one tenth or one fifth of the lactose broth tubes inoculated each with 1 c.c. of the water show development of gas, which is an indication of the presence of the dangerous bacteria.

Another index is the number of bacteria of all kinds that a measure of the water contains. The presence of a great number of bacteria in water treated with an antiseptic can only mean that the antiseptic is not preventing bacterial growth as it is intended to do. Except possibly in treated waters the value of this index is even more limited than the other, for bodies of water have their total bacterial content influenced by factors other than pollution.

As bad waters are more likely than good to swarm with bacteria, the test does of course mean something. Some say that the count in swimming water should not reach 1,000 per c.c.; others that it should not reach even 500, but few swimming waters have counts consistently so low. At present we cannot give bacterial estimations more than a rough working value; our experience is still too brief for accurate sanitary scoring of swimming water.

Various agencies tend to purify water by reducing the number of infective and other bacteria in it. Salt water is somewhat antiseptic and therefore safer than fresh. Dilution also is a considerable factor of safety at beaches, though at fresh water beaches it is often insuf-

An open air pool at the Crystal Palace, Galveston, Texas

Outside the Galveston (Texas) sea wall, the bathers congregate. Where so many swimmers gather, great precautions must be taken to keep the water safe and attractive.

ficient. An adequate volume of water per bather insures such dilution of the contamination from each body that it could not infect. In a small and much used pool this degree of dilution would require continuous or often repeated exchange of the water, and this is usually impracticable. The water of the average pools needs some form of antiseptic treatment.

Among the methods of antisepsis commonly employed are (1) exposure to ultraviolet rays of light, and (2) addition of various chemicals. The treatment with ultraviolet rays proves effective so long as the lamps work at their best, but to be dependable requires closer supervision than some forms of chemical treatment.

Copper sulphate controls the bad odored vegetation that tends to develop in open air pools but has little antiseptic value. Chlorin and ozone are much more highly destructive to bacteria, and are therefore widely used. Chlorination is the more popular and it is a very satisfactory method of treatment for pools, and in some cases for fresh water beaches.

Treating a Pool with Chlorin

Chlorin is administered either in liquid form from tanks or by the dissolving of bleaching powder in the water. The former method is convenient and very dependable but requires special apparatus.

The latter is also dependable, and is brought about by simply pouring the powder into the pool and agitating the water enough to stir it about. The average amount of available chlorin needed is one part per million parts of water. As bleaching powder yields only about one-third available chlorin the necessary dosage may approximate three parts per million, or a twelve ounce box to each 30,000 gallons. By considering a gallon as eight pounds, it is easy to figure out the amount needed. As the chlorin holds down bacterial growth for only a day or two, it should be used daily.

This is a higher dosage than would be required for drinking water, with its smaller content of organic matter. The concentration of organic substances in the water would increase the amount of chlorin used, because this organic material absorbs an antiseptic just as the bacteria do. Filtration, although it does not do away with bacterial contamination, helps to control it by so clearing out organic matter that less antiseptic is required. The amount of treatment necessary varies with the condition of the water.

Sufficient chlorin should be added to hold down the bacterial growth, as indicated by total bacterial and colon bacillus counts. It is possible to use a dosage that will hold the cultural results down to those prescribed for drinking water without any disagreeable effects to the swimmer. The smarting about the eyes and similar discomforts often blamed on chlorin is due more to the water itself. On the other hand, safety of the water hardly demands as heavy dosage as this.

Precautions Against Drowning

The most important swimming hazard other than infection is that of drowning, or lesser mechanical injury. Its control is mainly through careful supervision over bathers. Life guards not only assist any one in peril but also see that perils are avoided, that the diving apparatus is used properly and that chances are not taken with deep water, currents or undertows. Inexperienced swimmers are discouraged from exhausting themselves, or going into deep water too far or alone. Stakes and ropes about beaches guard against accident. In pools it is well to avoid slippery flooring, darkness, or too turbid water.

The importance of learning to swim has been taught so long and so well that a repetition here is needless. The more recent admonition is that mere ability to swim is not enough. Those who have learned to swim should then strive to meet the Red Cross life saving standards. For young swimmers there is the junior standard, similar to but less severe than the senior.

Mastery of these standards not only leads to safer play in the water but marks definite athletic attainment. The sooner one becomes proficient the better, though the need is progressively greater as childhood advances; older children more than young are attracted to the water, and they are the more common victims of drowning.

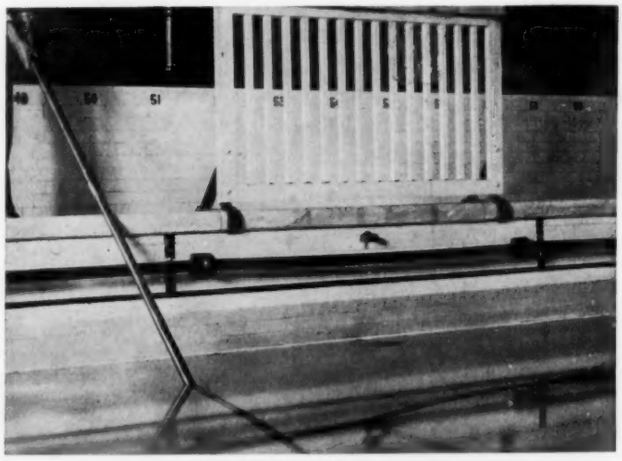
First aid for a drowning person brought to land is to excite breathing, not to rid the body of any water taken in; such water is mainly in the stomach where it does no harm.

The subject is laid face down, arms extended upward with one elbow crooked to support the head, and is straddled across the thighs by the life saver. The latter presses in on the lowermost ribs with his hands, resting his weight on them, and then allows the chest walls to spring out, enlarge the cavity a little, and suck in air. The pressure is slowly and regularly repeated, about twelve times a minute. This is continued for a long time or until the person breathes.

If Heart Is Bad, Be Cautious

Persons with defective hearts are in greater danger than others while swimming; it is they who are particularly subject to cramps. Every swimmer should assure himself by a medical examination that his heart is sound. If it is not he should know just how much of a tax it will safely stand. One with the mildest of such defects should avoid too strenuous swimming, competition with others, or swimming shortly after exhausting exercise or a heavy meal. He should not go into the water when feeling out of sorts, or if he begins to feel so while in the water, he should get out immediately. Many persons with heart disease are allowed to swim a little, but ought to follow carefully their physician's directions on the subject.

Dangers of swimming are numerous enough to discourage this form of exercise, were they not so greatly controllable. Only those with such defect of heart or other organ as to raise greatly the liability to injury need be afraid to go in swimming. Some with transmissible infections ought to stay away for their neighbors' sake. The rest can avoid the dangers and can spend very profitably some of their time in the water.



Removing sediment from an indoor pool. The scum trough may be seen at the surface level. This is Bartlett Pool, University of Chicago.

Should Select Best Supervised Pool

The swimmer should select the bathing place that has the best supervision. Public pools in many instances are raising their sanitary standards, but some have lagged behind. Those with strictest enforcement of bathing regulations are likely to be the best supervised throughout, as a management would hardly institute only half of the precautions if it really wants a sanitary condition.

Where the water is overcrowded or control of its contamination doubtful, bathers might plug the nose and ears with cotton dipped in liquid petrolatum. Any person with a disorder of ear, nose or throat might consider these parts peculiarly susceptible to infection and do so anyway. Protection from mucous membrane infections is furthered by leaving the pool before one feels chilled.

Avoidance of swallowing water is a preventive of intestinal infection. Observance of the other items of hygiene listed helps ward off still more infective agents. Injury other than infective is prevented by learning the water stunts systematically, and by not taking wild chances. We must have regard both for the condition of our swimming hole and its proper use.

Another Group of the 4,492 Posters Entered in Hygeia Contest

Lester Evans, Senior High School, Wichita Falls, Texas.

Ethel Meermans, South High School, Cleveland.

Merlita Moon, Schenectady High School, Schenectady, N. Y.

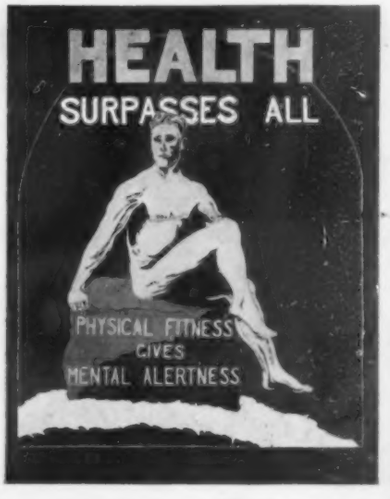
Eleanor Shelby, Central High School, Grand Rapids, Mich.

Roy Jacobs, Gadsden High School, Gadsden, Ala.

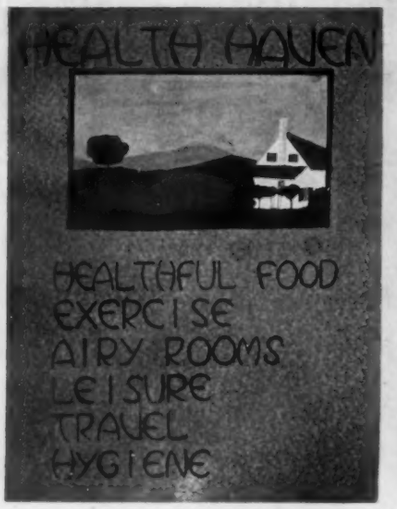
Ruth Montgomery, Lakewood High School, Lakewood, Ohio.

Vera Barnes, Washington High School, Sioux Falls, S. D.

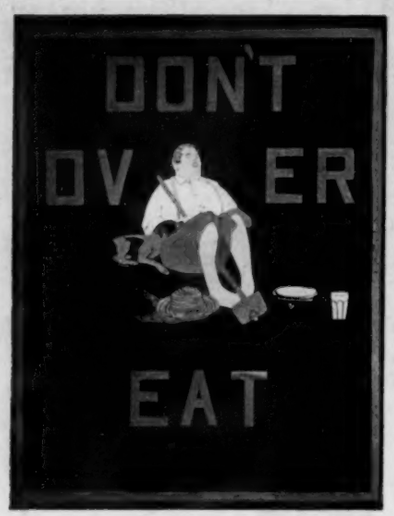
Maurice Ager, McKinley High School, Washington, D. C.



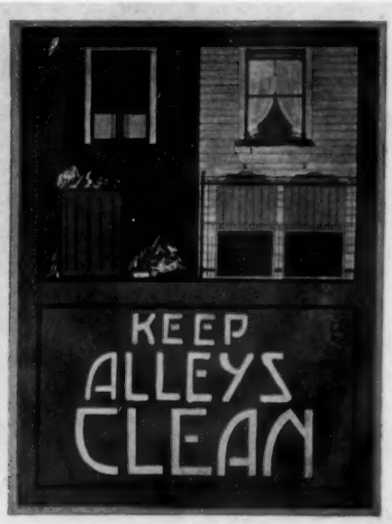
Lawrence Bellile, Central High School, Lansing, Mich.



Helen Soles, Fond du Lac Senior High School, Fond du Lac, Wis.

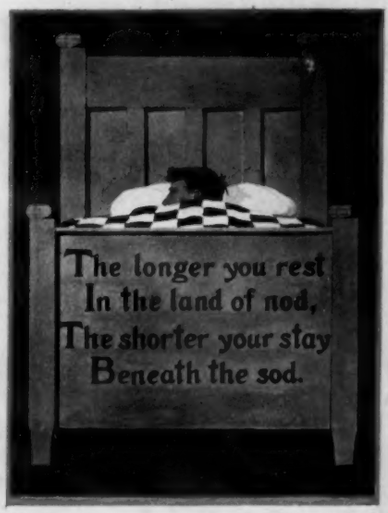


Thelma Tapp, Parker High School, Dayton, Ohio.



Henry Siwecki, Carl Schurz High School, Chicago.

M. Dolores Canill, Rahway High School, Rahway, N. J.



Wilmer Siegert, Lewis and Clark High School, Spokane, Wash.

Thomas Larsen, Kansas City High School, Kansas City, Mo.

Robert M. Hawn, Peabody High School, Pittsburgh.

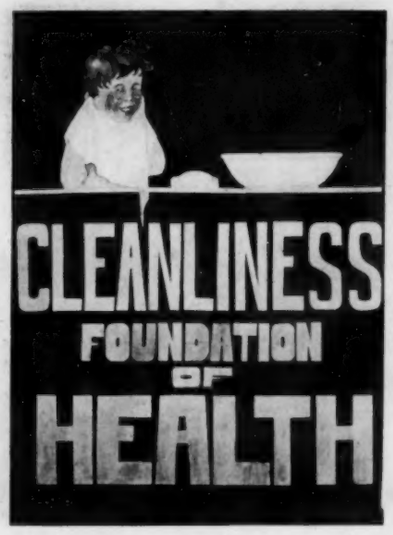
Ruth V. Rapp, South Bend High School, South Bend, Ind.

Louis S. Morse, York High School, York, Pa.

Carson P. Sheets, Colorado Springs High School, Colorado Springs, Colo.

Myda Barker, High School, Bronzville, N. Y.

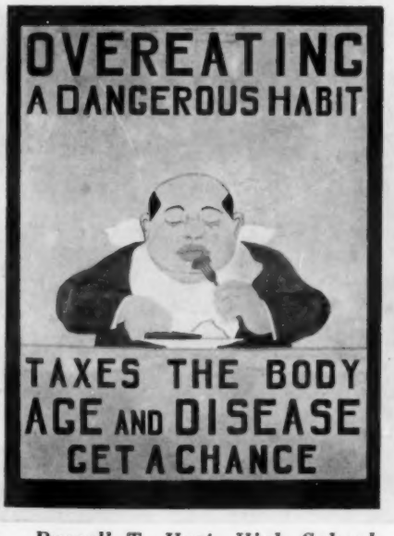
Louise D'Esposito, Maywood High School, Chicago.



Dave Brenner, Everett High School, Everett, Wash.

Laura Rose, Oak Park High School, Oak Park, Ill.

Carmen C. Collier, Technical High School, Arlington, Va.



Russell T. Hart, High School, Niles, Mich.

Florence Woodward, High School, Owosso, Mich.

Dorothy Reilly, Yonkers High School, Yonkers, N. Y.

Faith Coffin, Malden High School, Malden, Mass.

Thana Burkett, High School, Big Rapids, Mich.

Bernice Heaton, Washington High School, Sioux Falls, S. D.

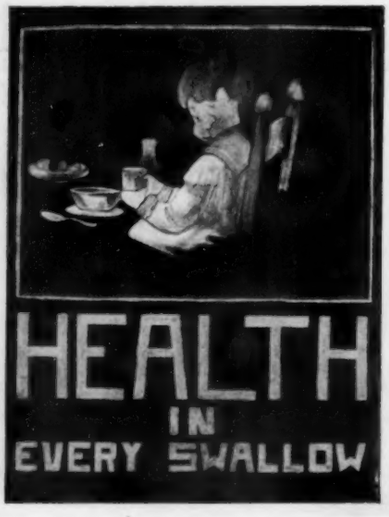
Marguerite Norman, West Chester High School, West Chester, Pa.

Clementine Haddow, High School, South Bend, Ind.

Casimier Sielezak, South High School, Cleveland.

Helen Sheahan, Olean High School, Olean, N. Y.

Darwin Huller, Unionville High School, Worthington, Mo.



Marion Garber, Bloomington High School, Bloomington, Ill.

Cornelia Clark

Tuberculosis, a Foe of Animals and Men

W. B. JAMESON

AT A time too remote for computation the Great Destroyer traveled over the land and sea distributing tubercle bacilli. Some of them entered the body of man and after a long abode have adapted themselves so thoroughly to that environment that they grow there with more vigor and destructiveness than elsewhere.

Other tubercle bacilli inhabited the bodies of the quadrupeds, especially the cow, and have accustomed themselves to that soil so thoroughly that they grow with an appalling power for destruction.

Still other tubercle bacilli found an abode in the common fowl and other birds so agreeable that they learned to live at that high temperature and grow so luxuriantly that in certain regions the egg and poultry supply is threatened.

The cold blooded animals of the waters apparently were not allowed to escape, although perhaps the organism which grows in the fishes and allied animals are pseudo tubercle bacilli; but whatever those micro-organisms are, they grow at so low a temperature and are so acclimated to it that they will not grow in the birds, quadrupeds or man.

The avian, bird or chicken tubercle bacilli have lived at the high temperature characteristic of the birds, so long that they do not readily grow in the bodies of the quadrupeds or man. When pigs, rats and mice consume large quantities of the bacilli in devouring the bodies of dead tuberculous hens, they do occasionally become tuberculous with the avian strain of tubercle bacilli. The importance of the disease in these animals is that bodies of the dead rats and mice may be eaten by healthy fowl and produce in them tuberculosis.

When Chickens Get Tuberculosis

The lesion in the common fowl is in and associated with the mucous membrane of the intestine and the ulcers produce a diarrhea. Before death, the hen becomes very thin with drooping feathers and manifestly sick. But one hen can discharge so many tubercle bacilli with her droppings that she may infect the food of many of the flock of which she is one and eventually perhaps give all of them tuberculosis. In hens the infection is almost exclusively by contamination of the food by the stools from the sick hen.

The time required to develop tuberculosis in the intestines of the hen is about two years. Before that time the danger of transmitting the disease is practically negligible. Here is the crux of the situation for the poultry farmer. If his flock has become infected by tuberculosis, the part of wisdom is to kill all of his manifestly diseased hens, deeply bury or better burn their bodies, fatten all the well hens at the end of the second laying season for the poultry market. The poultry flock is kept practically or actually free from infection and diseased fowls; the farmer has had the best egg life of his flock, and the bodies are suitable for food.

So far as the avian strain of the tubercle bacilli is concerned, its power to produce disease in man is negligible, but not so the bovine, or cow, bacillus. That strain is widely distributed and destructive to the quadrupeds. Unfortunately the cow is the one commonly attacked and is the means of widespread infection. She develops tuberculosis of the lungs, intestines, udder and uterus. Tubercle bacilli from all of these lesions are capable of spreading the disease.

May Infect Herds of Cattle

The disease of the lung produces cough and it drives small globules of moisture containing tubercle bacilli into the air from three to five feet. These masses of moisture settle on the feed and fodder and are eaten by other animals. The adjacent animals inhale the tubercle bacilli that are floating in the atmosphere. If one cow having active, open pulmonary tuberculosis is allowed to mingle freely with the herd, many, and too frequently all of them, become tuberculous.

A farmer whose herd of bovines is free from tuberculosis should not add an animal to that herd until the animal has been duly tested by tuberculin and shown to be free from tuberculosis. The tuberculin test is not trustworthy if it is performed on an animal more often than once in six months. It is easy to introduce tuberculosis into a herd but difficult to eradicate it. The eradication of tuberculosis from a herd is a large, serious, vexatious and expensive problem, and it cannot be considered in this article.

Tubercle bacilli escaping with the feces of the bovines are common sources of infection of hogs. It is a frequent custom for the farmer to allow his hogs to follow the cattle in the pasture and yard in order that the swine may eat the undigested parts of the droppings. It is done as a measure of economy but when the cattle are tuberculous and have tubercle bacilli in their stools, the hogs become tuberculous. It is a bad procedure unless the cattle are known to be free from tuberculosis.

When the cow has tuberculosis of the udder, in which there are areas of softening communicating with the lacteal or milk ducts, tubercle bacilli will escape with the milk. When tubercle bacilli escape from intestines and genitalia, dried masses can easily be flicked by the tail into the milk. Tubercle bacilli in the milk are not only a possibility but examination of milk purchased in bottles and bulk obtained from the wagons and shops shows that it is a stern reality. Dairy cattle are tuberculous in many instances. Large herds near the cities are most frequently diseased. In some instances all of the cows are infected, some extensively diseased.

A few years ago the milk supply of several large cities was investigated with the result that 10½ per cent. of the milk examined in Chicago contained tubercle bacilli, New York 16 per cent., Paris 12 per cent., Edinburgh 20 per cent., London 22 per cent. and Berlin 28 per cent. The calf that receives from its mother milk containing tubercle bacilli generally develops tuberculosis early and is prone to die.

This grade of milk goes to the creamery and all the skimmed milk enters the container from which each farmer receives his share. Perhaps only one farmer sends milk containing tubercle bacilli to the creamery, but they all take tubercle bacilli home to feed to their calves and pigs. If that process is continued long enough, all of the farmers may find that tuberculosis has developed in their hogs and cattle.

The good mother pays the market price for good milk, keeps it cool and all of her utensils clean, and little does she suspect that she is feeding her child for sickness and death. So many children have tuberculosis of the bovine strain of tubercle bacilli that the milk supply is an item of enormous importance.

The milk supply may be so improved that it will not contain tubercle bacilli, but it will require a long time to eradicate tuberculosis from all the herds. If all the tuberculous herds were slaughtered at once there would be a milk famine. Many farmers would be reduced to penury. At present it is impossible to procure milk free from tubercle bacilli in quantity sufficient to supply the demand.

How Milk Is Made Safe

Notwithstanding the fact that much of the milk contains tubercle bacilli, it is possible to have a safe milk. This can be done by pasteurization. One large city after another has passed laws making it obligatory that all milk except the certified variety be pasteurized. That means that the milk is heated to a temperature just sufficient to kill the tubercle bacilli in a given time. Incidentally it kills all the disease producing organisms; does not destroy the taste, digestibility and nutritive quality of the milk. Certified milk is the product of a dairy which a responsible corporation or society certifies, after minute study, that among other things the cattle are free from tuberculosis.

Tubercle bacilli are killed in from a few minutes to two hours when they are exposed to the direct rays of the sun in the mid-day of summer. The light of a well lighted room will kill them in thin layers in a few hours to two days, but in masses of sputum the time necessary for the light to destroy them is greater. In dark, damp places and in masses, the germs live as long as three months. Butter and cheese are adapted to long life of the tubercle bacilli.

The tuberculosis in children produced by the bovine organism is doubtless not so common as it was years ago but it would be rash to state that it has been eradicated. When all the milk is free from the bovine tubercle bacilli naturally that type of disease will practically cease, but that variety of disease is not so serious in children as the one produced by the human strain. The bovine strain rarely appears in the lung disease of persons over fifteen years of age.

Disease Fatal to Very Young Animals

The very young of all animals, including children, take tuberculosis readily and are prone to die. The statement has been made and is nearly, if not entirely, correct that children who are sick from tuberculosis before they reach the end of the first year of life all die.

A mother that has active pulmonary tuberculosis—tubercle bacilli in her sputum—is almost certain to impart the disease to her nursing baby. A tuberculous person should not marry while the disease is active and no woman should give birth to a child before she has been free from active disease for at least five years; then her general condition should be good.

Tubercle bacilli may enter the body of a young child through the respiratory tract or through the digestive canal. Their toys may become soiled and the hands become the medium for the tubercle bacilli to gain entrance to the mouth. The careless spitting habit carries tuberculosis to many children. If people who have a cough lasting over three weeks, with expectoration, would have the sputum examined, many cases of tuberculosis would be found in the early stage—the time when treatment is effective—and by proper living, the danger of passing the disease to others is materially reduced.

In children, tuberculosis of the glands, bones, joints, peritoneum, pleura and membranes of the brain is the usual kind, but it does occur in the lung. In people over fifteen the most serious variety of tuberculosis is in the lung. The lung in the adult appears to be the most favorable soil for the human tubercle bacilli. Unfortunately tuberculosis of the lung is the point from which infection of other people is most easy and common.

Precautions the Tuberculous Should Take

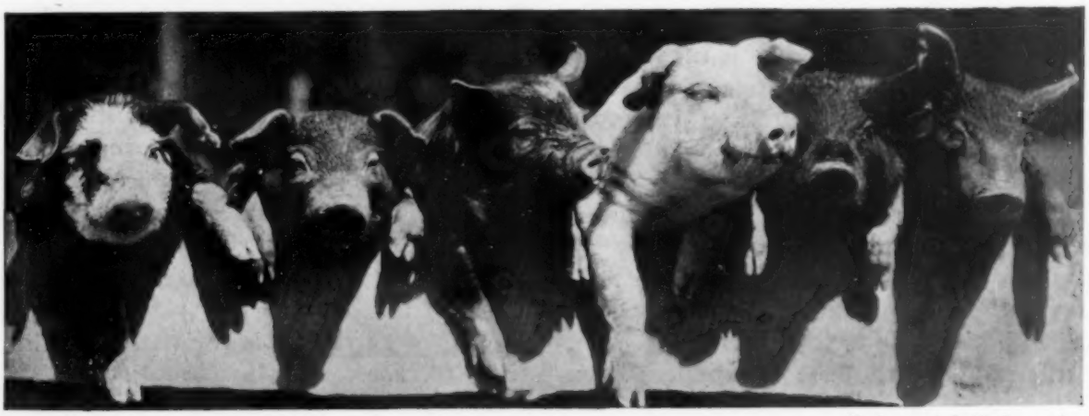
If all the tubercle bacilli that come from the diseased lung are caught, retained and destroyed, practically there is no danger of passing the disease to others. Coughing and sneezing cause tubercle bacilli to be injected with moisture about three feet into the air, but they may be caught by holding a soft paper napkin in front of the face at the opportune time. The moisture passes into the paper and the microbes rest on the surface. Those organisms that escape with the sputum may be caught in a suitable cup made of paper and the entire mass be burned. Burning is by far the best way to destroy the tubercle bacilli.

The eating and drinking utensils of a tuberculous person should be washed separately, kept apart from others and not used by the non-tuberculous.

Each tuberculous person should occupy a room alone and have it well lighted and ventilated. That is best for the patient and those in health.

The hands of a tuberculous person should be kept scrupulously clean. They should never be used to receive a cough.

Approximately 100,000 people die from tuberculosis each year. It leads all diseases in the production of illness and poverty. Financial loss from tuberculosis annually in the United States to the raisers of poultry, cattle and hogs runs far into the millions of dollars. It is a terrible scourge, but it is not so serious as it was. Much has been accomplished, but much remains to be done before our land is free from tuberculosis.



Underwood & Underwood

HYGEIA

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Plain Facts About Health and Disease

HEALTH NEWS OF THE MONTH

Bacteriophage Is Not New

During the last week in December, newspapers throughout the country carried an item to the effect that a young investigator in the University of Minnesota had discovered an organism which, it was believed, maintained its existence by infecting bacteria. The discovery was, therefore, announced as a great advance in medical science, and it was stated that no doubt preparations would be made which could be used to treat every disease caused by bacteria except tuberculosis. About four days after publication of this item, newspapers carried a statement from Professor Roux of the Pasteur Institute of Paris to the effect that this was undoubtedly a repetition of the work of d'Herelle.

A few years ago d'Herelle announced that he had recovered from filtered sewage, intestinal contents, spoiled milk and similar substances, a product which seemed to have the power, when added to bacteria, to dissolve them and naturally, therefore, to destroy them. The product concerned was so fine that it could be filtered through a porous clay filter. Furthermore, the product seemed to have the power of propagating and intensifying itself, so that d'Herelle believed he had a living organism similar to the bacteria but so small that it could not be seen through the highest powered microscope.

Since that time, numerous investigators have been attempting to repeat d'Herelle's work. It appears to have been well done, as most others have confirmed his observations. However, there is a difference of opinion as to the nature of the substance concerned, some contending that it is a living organism, and others that it is a chemical of the nature of a ferment or enzyme.

In any event, the Minnesota investigator has not discovered a new substance but has repeated the observations made several years ago, notwithstanding the fact that the newspapers circulated the discovery as new and indeed as of such great importance that it was a first page item in practically every large newspaper in the country. The name "bacteriophage" means to eat bacteria.

Statistics on Health and Disease

With the end of the year, the department of commerce through its bureau of census announces some figures relative to disease and death incidences during 1923. The death rate from diabetes was 17.9 per hundred thousand population as compared with 18.4 in the previous year. The death rate from typhoid fever was by far the lowest ever shown for the registration area. Fourteen states, out of thirty for which figures are available, showed higher numbers of deaths from childbirth, and the death rate from this cause was 6.4 per thousand live births in 1923, as compared with 6.2 in 1922, 6.5 in 1921 and 6.1 in 1915.

During 1923, the death rate from cancer in the registration area was 89.4 per hundred thousand population as against 86.8 in 1922. If the same death rate for cancer prevailed in the United States, the total number of deaths from this cause during 1923 would be about 99,000.

Interesting facts are available concerning the size of families. The lowest average number of children born appears to be for architects and the highest average for coal mine operatives, ranging from 2.8 for the former to 7 for the latter, in cases in which the father had reached the age of from 40 to 44 years.

On the other hand, the lowest average number of children living in such families is that for actors and showmen, averaging 2.6, and the highest average for coal mine operatives, averaging 5.9. When one considers families in which fathers vary from 44 to 49 years of age, the lowest average number of children born appears for dentists and physicians (3.3), and the highest average is for the coal mine operatives (8.1).

M. F.

PRUDERY OF THE PRESS

ONE of the chief difficulties that medical science has encountered in educating the public in the prevention and control of disease is a prudery that inhibits plain speaking about the human body and the diseases from which it may suffer.

Probably some persons can remember when it was considered indelicate to mention the words "leg" and "stomach" in polite society. Indeed, it became quite the thing to speak of "limb" and to characterize the stomach rather vaguely as the abdomen. Newspapers were not supposed to speak of such conditions as pregnancy and childbirth; a woman about to have a child was described as "in a delicate condition," or the French term "enceinte" was used. As to the periodic function of womanhood, it is even today considered the height of crudity to refer to it even in periodicals devoted to public health.

More recently, when the public became interested in the matter of rejuvenation with particular reference to the use of glandular material for this purpose, there could be found no newspaper that would mention the organs concerned by either their scientific or popular names. Such locutions as "glands," "sex glands" and "gonads" have been employed, and although "interstitial glands" refers to a definite structure within the male generative organs, the term came to be used by the newspapers as signifying the entire gland.

However, aside from the problem of instructing the public in matters anatomical and physiological, there arises the greater problem of giving the public the essential facts regarding the prevention of venereal diseases. Many newspapers refuse to use the words "venereal diseases." One syndicate of papers invariably uses the locution "vice diseases," and the large majority hold forth for "social diseases."

So far as we know, the term "gonorrhea" is never used in public print, and syphilis is more commonly referred to as a "blood disease" or "blood poisoning." Very rarely in some country newspaper, or in a metropolitan newspaper whose editor has temporarily lapsed from editorial watchfulness, there appears a death notice indicating that some member of the community has died from one of these causes. Indeed, it has been the custom to conceal the cause of death even when it was locomotor ataxia or general paralysis.

Is it surprising, then, that there are still large numbers of people who do not know that syphilis and gonorrhea are two distinct diseases and that in the opinion of many of the recognized authorities locomotor ataxia and general paralysis are results of syphilis? How many know that gonorrhea of the eye is responsible for the majority of cases of blindness in infancy, and that thousands of women are compelled to undergo operations within a comparatively short time after marriage because of gonorrheal infection of the generative tract? Yet both these diseases can be controlled if seen early and properly treated; both are preventable diseases.

It would appear to be high time that the intelligent public at least should conclude to discuss these matters openly. M. F.

THE OYSTER AND TYPHOID FEVER

THE oyster again occupies the limelight in Chicago and New York City as the probable source of epidemics of typhoid fever. The situation is being studied with great thoroughness by expert observers in order to make certain the causal relation of oysters from polluted waters and these epidemics.

According to our present knowledge, typhoid fever is always due to the transmission of germs from the discharges of a person who has had typhoid fever, or, in rare instances, from a so-called carrier who, so far as he is aware, has never had the disease.

The agency which transmits the bacillus of typhoid to the new victims may be drinking water, the usual agency in widespread epidemics; milk, contaminated by some typhoid carrier; vegetables, usually those grown on soil fertilized by human sewage and served raw; raw fish or shell-fish, or direct contact.

A number of epidemics have been traced to shell-fish both in this country (oysters and clams) and abroad (mussels and cockles). Oysters, grown primarily in salt water, are usually transplanted to fresh or brackish water for "fattening" before shipment, or to be convenient to the shipping point. Pollution of these waters usually comes from a nearby sewer. Fuller found 40 per cent. of the oysters and 70 per cent. of the samples of water taken five miles out from a sewer opening to be contaminated with the bacillus coli—a normal inhabitant of the human intestine. It is evident, therefore, that sewage contamination can extend at least to a distance of five miles in sea water.

The first epidemic of oyster borne typhoid in the United States was observed by Conn, at Middletown, Conn. Oysters served at banquets in some of the fraternity houses caused a number of cases of typhoid fever. Since that

time several epidemics have been traced to a similar source.

Where oysters contaminated with typhoid germs are shipped to widely separated points, causing only one or a few cases in each locality where they are eaten, the source of the contamination is likely to be unsuspected, and, if suspected, more difficult to trace and prove than is the case with water or milk. For this reason it is probable that the oyster as a conveyer of typhoid fever germs frequently escapes detection. If oysters are eaten after cooking with sufficient heat, the typhoid bacillus is killed.

In the recent Chicago and New York epidemics the evidence seems to be accumulating to convict the oyster as particeps criminis.

J. M. D.

HANDLING THE DELINQUENT CHILD

AMONG recent gatherings of scientific associations, few were more interesting than the celebration of the twenty-fifth anniversary of the founding in Chicago of the first Juvenile Court, and the fifteenth anniversary of the first Institute for Juvenile Research.

These meetings were held in Chicago, January 2, 3 and 4, and brought together a distinguished group of public officials, judges, ministers, lawyers, physicians, social welfare workers and specialists in the departments of science that are related to juvenile welfare. Addresses were by persons recognized as experts in their several fields.

It is now universally recognized that if we hope to lessen the appalling amount of juvenile delinquency, those young, immature minds that display a tendency to crime must be dealt with in a way wholly different from that in which we handle adult offenders. To treat youngsters as we treat hardened criminals by methods of revengeful punishment, compelling their association in jails and prisons with exactly those persons whose example and advice will intensify vicious tendencies, is a stupid, costly blunder.

How can juvenile delinquents best be handled so as to suppress vicious tendencies and to develop and intensify better qualities of mind and heart?

That is the problem which is occupying the attention of an increasing number of persons in this and other countries. An understanding of child psychology and psychiatry is fundamental to any considerable progress in its solution. It is strange that these subjects should have been so long neglected. Any considerable attention to them is a matter of very recent development. And, apparently, we are as yet only at the threshold of a clear, usable knowledge of the child mind.

One listening to the discussions of these experts gains the impression that, for the most part, their energies have so far been devoted to a clinical study of symptoms—a careful, exhaustive recording of the behavior of individual children, much as the signs and symptoms of bodily diseases were observed and recorded with meticulous care by the ancient worthies in medicine.

We do know that the handling of juvenile delinquents by a wise, sympathetic judge, with the assistance of an expert medical or psychiatric adviser, supplemented in many cases by the follow-up work of a level-headed social service worker, has saved many of them from criminal careers.

On the other hand, we seem to be yet a long way from a body of knowledge, deduced from the study and analysis of a large number of cases, that will enable the medical expert, the judge, or any one else, to make an accurate diagnosis of each case, to prescribe just the right course of management, or to predict the outcome.

The modest, receptive mental attitude of the child-psychologist in recognizing the limitations of existing knowledge in his field is gratifying and commendable. It is evident that these students of the subject will not attempt to lay down any rigid rules of procedure unless or until a more extensive knowledge of the subject, now being accumulated, makes possible sound and sure deductions.

J. M. D.

DOES SOAP KILL GERMS?

ROBERT KOCH, the discoverer of the bacillus of tuberculosis, found in the course of his investigations in 1881 that solutions of soap will kill germs. Since that time, there have been numerous scientific investigations of the subject with a view to finding out just why soaps do kill germs, the extent to which this action occurs, and the ways in which various soaps vary in this regard.

During the World War, investigators in the United States Army claimed that to some extent diseases of the lungs, including common colds, and even pneumonia were transmitted by insufficiently washing the dishes used by the men so that the next service carried the germs with it. It was proved at that time that if the dishwater contains 0.5 per cent. of ordinary yellow or brown bar soap the pneumococcus, which causes pneumonia, and the streptococcus, which

appears to be associated with various types of infections of the nose, throat, ears and chest, as well as with various special infectious diseases, both would be eliminated.

Another investigator has found that soap solutions will rapidly destroy the spiral organism that carries syphilis, perhaps through its physical effects on the organism, rather than by any chemical action.

The simple character and practical nature of these facts have caused Dr. John E. Walker of the laboratory service of the Army and Navy General Hospital in Hot Springs, Ark., to undertake a new investigation of soaps as to their value in killing bacteria, and he has just made the work public through *The Journal of Infectious Diseases.*

Dr. Walker finds, for instance, that raising the temperature of the soap solution will increase its power to kill germs so that typhoid germs are killed in a soap solution that is only as warm as the temperature of the body, whereas cold solutions of soap will not kill them. He found also that various solutions of soap differ as to their actions on various bacteria. For instance, the pneumococcus is killed by a weak solution of one of the sodium ingredients that enters into soap, whereas the typhoid bacillus is not affected by the same substance in a concentration two thousand times as strong.

It is known that soaps have a marked effect in lowering the surface tension or, in other words, the physical conditions surrounding bacteria, and that this may have some part in causing their destruction. For instance, if a concentrated solution of salt is placed on one side of a membrane, and a solution of distilled water on the other side, there will be a tendency for the salt in the salt solution to pass through the membrane into the unsalted water until the solutions on each side are of approximately the same salt strength.

When a concentrated solution of soap is placed around a simple cell, such as a bacterial organism, there would naturally be a tendency for interchange through the wall of the organism which would result in its death.

Various bacteria differ as to the composition of their surfaces—some of them have capsules around their walls, others have little projections which serve to aid their motion. It is apparent that the relative thickness of the wall and its permeability to substances from without may play some part in its reaction to the soap solutions.

From the practical point of view, it is interesting to know that the organism that causes pneumonia is most susceptible of all to the various ingredients of soap and dies very quickly under influence of a soap solution. The streptococcus is killed, although not quite so readily, by the same soaps that kill the pneumococcus. The typhoid organism is resistant to soaps of unsaturated acids, which kill the pneumococcus and streptococcus readily, but is not quite so resistant to the soaps of saturated acids. Soaps of palmitic and stearic acids kill the pneumococcus, streptococcus and typhoid bacillus in about the same concentration.

M. F.

IS VACCINATION WORTH WHILE?

SMALLPOX became unusually prevalent in Detroit in September, 1923. New cases continued to appear until April, 1924, when another rise in the incidence curve appeared and hemorrhagic cases were seen. The curve continued to rise until its peak was reached about May 25. The outbreak terminated suddenly and smallpox incidence became normal at the end of June.

An investigation made of the vaccination status of the city's residents showed that approximately 26 per cent. had never been vaccinated and an additional 41 per cent. needed revaccination. During the outbreak, approximately 817,000 persons were vaccinated. Of this number about 500,000 were vaccinated in May and the very first few days of June. Smallpox incidence had constantly increased up to the end of May. The outbreak terminated the latter part of June.

Compulsory vaccination of school children was instituted as a preventive measure in February and carried on through March. Only 5.6 per cent. of the cases of smallpox occurred among school children as against 24.5 per cent. for the state of Michigan as a whole. Only twenty-eight cases occurred in Detroit, and in all but two of these cases the parents refused to have their children vaccinated! One of the two exceptions was missed by the school physician and the other was passed erroneously by the physician as having a successful vaccination.

One other significant fact should be mentioned as a final argument in favor of vaccination—if one is needed. No one in Detroit contracted smallpox who had a successful scar of a vaccination performed not more than five years previously!

Among 1,592 cases of smallpox in Detroit there were 192 deaths! These deaths might have been prevented through vaccination.

F. C. Z.

A Healthland Message

BY JOHN T. LEMOS

The Fresh Air Elf sent this page to you. He wants you to feel happy and full of life, and he is sure that plenty of fresh air will help you to do it. When you have time, take your pencil and paper and draw these pictures the Elf sends to you.

There's one good thing
That's always cheap,
And yet it's very hard
To beat.

It's all around us
Everyday,
And helps us all
Along the way.

You find it near you
Everywhere.
I'm sure you'll guess it -
Good FRESH AIR!

The Fresh-Air ELVES
All fly about,
And tone you up
Inside and out

Take good deep breaths
The whole day long,
And you will feel
Both well and strong.

For Fresh-Air ELVES
Will run about
And put the BAD-AIR
GERMS to rout.

Fresh air is good, too,
When you sleep,
And makes your rest
Serene and deep.

Just open up
Your windows wide
And let the Fresh-Air
Boys inside

Then, when you wake up
Feeling fine,
You're ready for
A real good time.

Bennett

Do You Live in a Health House?

G. M. KILBOURN

WOULD you rather live in a Health House or an Unhealth House? But, of course, you don't really know until you have visited both houses and have inspected them inside and out, upstairs and downstairs.

Down in Dallas, Texas, where even now there is no snow on the ground and the boys and girls can romp and play outdoors without woolly coats and mittens and clumsy overshoes, there was a big meeting not long ago. To this meeting went the dentists from all over the country. Perhaps your very own dentist was there, and can tell you that what I say is true.

There in a big hall where all the dentists gathered for their meetings stood the Health House and the Unhealth House, side by side. They were three feet high, as tall or taller than many little boys and girls. And so that big, tall dentists could see in them without stooping over, they were set on a table just as is shown in the picture.

The Health House was built of good things for growing boys and girls to eat and the Unhealth House was made of things that taste good, but help nobody to grow any bigger and stronger.

Health House Has Oatmeal Walls

Now what do you suppose the walls of the Health House were made out of? Oatmeal! That is, oatmeal covered the board walls. The roof was of whole wheat crackers, and the chimneys were of real bottles of milk. The walks leading up to the Health House were of carrots and turnips and other vegetables, which boys and girls who want to grow big and strong can hardly get along without.

The stairsteps were of raisin bread; the door was a bunch of grapes, the wall paper was of lettuce, and the windows of toast.

Scattered about on the lawn were the trees and flowering shrubs, which were apples and oranges. Among the trees stood the Good Fairy of Health, offering all visitors a refreshing drink of pure water.

But over in the next yard, in front of the Unhealth House, stood an old wrinkled witch, and instead of pure water, she offered the children some chili, just to upset their stomachs!

The front walk was paved with candy jellybeans, and the roof was made of peanut candy, which tastes good, but doesn't help little boys' muscles to get any bigger.

"Hot Dogs" Form Unhealth House

For the boys and girls who forget that some things that are easy on the eyes may be very hard on the stomach, the old witch had made the walls out of "hot dogs," the wall paper out of hot cakes, and the doorsteps out of hot biscuit.

Instead of good bottle-of-milk chimneys, the Unhealth House had nothing but soda-pop chimneys; they were pretty enough to look at, but you could drink both chimneys and still be starving your stomach!

Now that you have paid a little visit to both houses, in which one would you rather live? I'm sure I'd prefer the Health House and a strong, healthy body.

BOOK REVIEWS

SAFEGUARDING CHILDREN'S NERVES. By J. J. Walsh and J. A. Foote. Pp. 272. Price $2. Lippincott, Philadelphia. 1924.

TO SPANK or not to spank is a question approached gingerly by Drs. Walsh and Foote.

They admit that an exceptional parent, endowed with an ideal disposition and character, can train tractable children by kindness, without resorting to any form of punishment. However, they find that the average child is not amenable to such direction, nor is the average parent endowed with the enduring patience and self control necessary to train a child's character by kindness alone. They conclude that nature's step-motherly methods of discipline should not be forgotten, that transgression of the laws of the child's realm should bring its punishment, a sequence of events which will direct the child's future conduct along paths, safer and pleasanter for himself.

Drs. Walsh and Foote have as much to suggest for the "bringing up of parents" as of children. Their particular interest in this book is the unusual child, be he genius or dullard, the victim of bad habits or the victim of "spoiled grandparents." They protest against the surrender of hope in the combat with supposedly unfavorable heredity. Their advice in uprooting bad habits and instilling good ones avoids dogmatism.

The book is clearly the product of wide experience with problems of child conduct. F. J.

HELIOTHERAPY. By A. Rollier, M.D., medical director of the Institutions of Heliotherapy, Leysin, Switzerland. Cloth. Pp. 288. 93 illustrations. N. Frowde and Hodder and Stoughton. 1923.

ALTHOUGH "Heliotherapy" is essentially a technical book for physicians and surgeons, it contains much of interest to other persons concerned in the treatment of tuberculosis. I am thinking of hospital and sanatorium trustees, nurses, radiographers, occupational and physiotherapists and also, of course, families in which there is tuberculosis.

That there is a much larger place for sunlight treatment of tuberculosis than has yet been found in America is the conviction of a large number of tuberculosis specialists. Anything, therefore, that will contribute to this intelligent interest should be welcome.

The author is to be congratulated for the attention he has given to the collateral mechanical treatment of the bone and joint cases of tuberculosis. Too often useful methods of treatment fall into disrepute, not for want of merit, but because too much is claimed for them by overenthusiastic advocates who do not recognize the limitations of a special line of treatment. In recognizing the importance of following good surgical treatment side by side with the sunlight, they are safeguarding the repute of their speciality.

Sunlight is not a specific for tuberculosis, and nobody of intelligence and authoritative views will claim it to be such. The best that can be claimed for it—and that is enough—is that it is a promising remedy which can be made to assist in the treatment of chronic conditions in which there is need for utilizing every valuable instrument.

In the employment of heliotherapy, as is generally true throughout the entire field of medicine, benefit depends more on the degree of understanding and intelligent use of the instrument than it does on the instrument itself. Because sunlight is so readily available to all, it is likely to be abused in some instances, a danger to which the authors give notice. This is particularly important in the pulmonary forms of the disease (consumption) for much remains to be proved in this connection.

All in all, this book contributes to our knowledge of a literally God-given remedy. H. E. D.

YOUR HEART AND HOW TO TAKE CARE OF IT. For the nonmedical reader. By Robert H. Babcock, M.D., LL.D. Cloth. Pp. 235, with 6 illustrations. Price $1.50. D. Appleton and Co., New York. 1924.

THE formation of societies in some of the larger cities, together with the formation of a national society for the prevention of heart disease, makes the appearance of this little volume of Dr. Babcock's timely.

The book states briefly but concisely what a layman should know about heart disease; it points out the principal causes of the disease and what can be done to prevent it. For those who have abnormal hearts that give rise only occasionally to symptoms, it should be a great help.

Dr. Babcock is very clear in his descriptions of the ways in which heart disease is acquired in early life and he gives much useful advice to parents. Suggestions for those adults who have acquired heart disease early follow.

The chapter on the heart troubles coming on in middle life is specially good and should cause many who are living the too strenuous life to ponder.

The clearness with which Dr. Babcock brings out points that, on the one hand, should cause concern and, on the other hand, should cause no worry is very striking and makes the book one that can be placed in the hands of the laity not only safely but profitably. S. R. S.

WHAT EVERY MOTHER SHOULD KNOW. By Charles G. Kerley, M.D. Second edition revised. Paper. Pp. 103, no illustrations. Price, 50 cents. Paul B. Hoeber, Inc., New York. 1924.

MANY practical points of interest to mothers are contained in this book. It treats, however, many topics on which the mother should consult a physician. There are a number of feeding formulas and diet lists, but it must be remembered that pediatricians differ as to the merits of different systems of feeding.

If the mother will read this book as a nursery guide rather than as a substitute for a physician, it will be of unquestioned value. J. R. G.

INDEX TO TRANSACTIONS OF THE AMERICAN CHILD HYGIENE ASSOCIATION, 1910-1922. Price, $5. American Child Health Association, New York. 1924.

The American Child Health Association has recently issued an index to the transactions of the American Child Hygiene Association, covering the period, 1910 to 1922. This index is an invaluable aid in locating material in the Transactions and is essential to complete your files, as it is a ready reference.

HEALTH NEWS AND VIEWS

MANY ACCIDENTS FROM TRIPPING OVER TRUCK HANDLES

Tripping over truck handles is a favorite indoor sport in many industries, and the injuries that result from such falls, although usually trivial, frequently develop through infection into something serious.

In one year in New York state, several thousand accidents from tripping over the handles of platform trucks were reported; of these 10 per cent. resulted in infections. Splinters, cuts and skin abrasions are often given little attention and become easily infected.

Robert Northrup, New York safety inspector, tells in a recent *Industrial Hygiene Bulletin* one possible solution of the truck handle accident problem. The handle can be made to rest in an upright position, if elongated eyes are forged in the end of the yoke, thus enabling the yoke to brace against the underside of the axle.

When the truck is to be used, the workman simply lifts the handle a trifle and it is free to swing up or down at will. Investigation proves that it is the tendency for the workmen to leave the handle up, if it will stay up, for it prevents him from having to stoop to the floor to pick up the handle when he wants to use it again.

Strict orders can be given that the handles be left up, and another industrial hazard will be corrected, Mr. Northrup asserts.

TO PREVENT LEAD POISONING

All workers exposed to lead dusts, lead fumes, lead solutions and lead compounds are liable to poisoning. These poisons get into the body through the nose while breathing, or through the mouth when chewing, swallowing or wetting the lips.

The following rules for the prevention of lead poisoning are given in a recent bulletin of the Ohio state board of health:

1. Do all you can to keep down dust. When sweeping or cleaning, always dampen with water, oil or wet sawdust. Where dust can not be kept down, you must wear a respirator. This must be cleaned out at least once a day.
2. Eat breakfast before going to work. Drink milk at meals, and if possible once between meals. Do not eat meals in the workroom.
3. Keep dirty fingers out of your mouth, and off of your food, and whatever goes into your mouth. Wash hands, arms and face with warm water and soap before eating, going to the toilet, or quitting the workroom. Clean your lips and rinse out your mouth before eating or drinking.
4. A mustache, if worn, must be kept short. Do not wear a beard. Keep fingernails clean and cut short, also the loose skin about the nails or hands.
5. Do not chew tobacco or gum while at work. Avoid the use of intoxicants in any form, as they promote lead poisoning.
6. Take a full bath with warm water and soap at least twice a week.
7. You must wear overalls and jumpers while at work. Wear a cap if exposed to dust or fumes. Do not wear your working clothes outside of the working place.
8. Have a bowel movement once a day if possible.
9. Report to your foreman if you notice (1) loss of appetite, (2) poor sleep, (3) indigestion, (4) continual constipation, (5) vomiting, (6) pains in stomach, (7) dizziness, (8) continual headache, or (9) weakness in arms, limbs or body.

Lead poisoning brings on paralysis of the wrists and arms, hardens the arteries, causes chronic diseases, and hastens old age and death.

DOES REMOVAL OF TONSILS PROTECT AGAINST OTHER DISEASES?

Is the person who has had his tonsils removed less likely to contract diphtheria or scarlet fever?

To answer this question, Dr. James A. Doull of the Johns Hopkins school of hygiene recently made tests of school children in certain wards of Baltimore.

He found that children whose tonsils had been removed were distinctly less liable to contract diphtheria than other children of corresponding age and similar environmental conditions.

However, he could find no such relationship between removal of tonsils and scarlet fever occurrence. Dr. Doull thinks this latter finding surprising in the light of recent experimental work in scarlet fever, which has tended to revive the theory that this disease is like diphtheria in that it is primarily a local infection in which the general symptoms are caused by a toxin produced in the throat.

Out of 224 cases of diphtheria that had occurred among the Baltimore school children examined, only two children had had their tonsils removed, while in 193 cases of scarlet fever, 19 were found to have had tonsil operations.

Dr. Doull, in making his report, concludes:

"In the area studied, children who have had their tonsils removed are distinctly less liable to diphtheria than those who have not had the operation performed; whereas in scarlet fever, no significant difference is shown. The relationship which removal of tonsils bear to either diphtheria or scarlet fever requires more observation in other localities."

CHILD WORKERS IN MILWAUKEE MUST HAVE PHYSICAL EXAMINATION

Every child worker in the city of Milwaukee, before he takes his first full time job, must have a physical examination. If physical defects are found, a permit to work is issued on the understanding that the defects will be corrected and that the child will report for reexamination.

According to the Wisconsin industrial commission, of the 2,507 Milwaukee children receiving permits for first full time employment during the year 1923-1924, only 18 per cent. were classed as sound and free from physical or health defects.

NO VENEREAL DISEASE IN ALBION COLLEGE FRATERNITIES

Proof that the interest of colleges and universities in the health of students is reaching the members of the student body is reflected in some of their activities.

Fraternal organizations at Albion College, Albion, Mich., have made a negative Wassermann test an entrance requirement for election to membership. The educational value of such a regulation is far reaching.

CITY WATER WORKS

Behold here, not a slaughter pen, but the municipal water works of the ancient town of Hebron in Palestine. Skins filled with water are hauled from distant streams by camels and donkeys in the extremely dry season when wells and pools are dry.

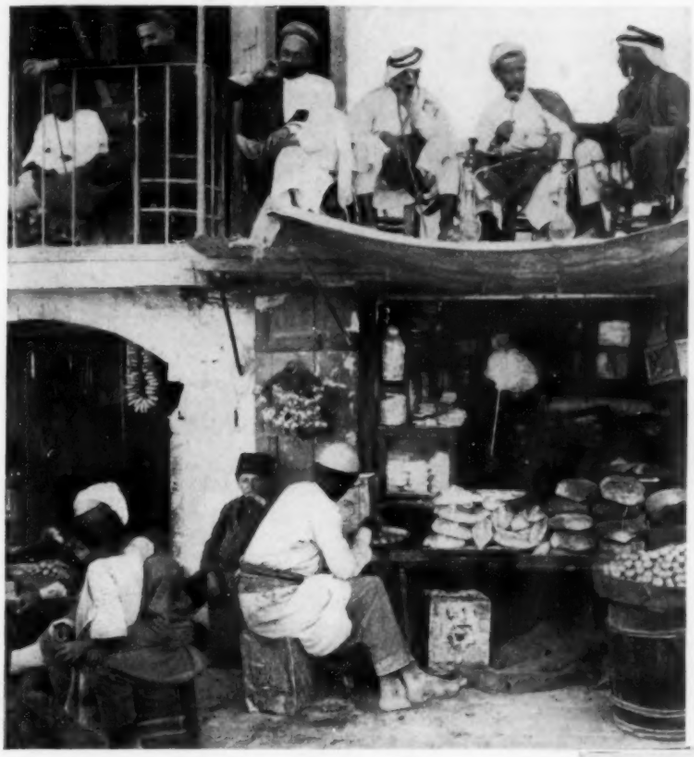
"EVERYBODY WORKS BUT FATHER"

Words of the old song seem to describe the situation in Siam. Mother is working the tread irrigation wheel that forces the water out of a ditch and over the rice fields. Father stands by to see that the wheel is kept turning.

MARY'S WELL

The famous Mary's Well in Nazareth is probably little changed since the days of Christ, and the women who carry water jugs on their heads are much like those who dipped water from the well to quench the thirst of the camels of the Three Wise Men of the East.

Photos by Ewing Galloway



DOUBLE DECK CAFÉ

At Jaffa Gate, Jerusalem, is the Truckert Café, a double deck sidewalk restaurant. The little roof of the grocery store next door serves as a smoking balcony.

EXPIATING THEIR SINS

These Japanese are squaring themselves with Buddha by covering their faces with baskets and playing flutes for alms. Their sentences, fixed by the church, vary according to the gravity of their offenses. They are not allowed to show their faces until their sentences have been served.

FRIGHTENING EVIL SPIRITS

This Hindu ekka driver has a team of sacred bulls. On his truck is a pair of wooden bulls which sanctify his rig and keep ill health and evil spirits away, he believes.

Photos by Ewing Galloway

Underwood & Underwood

THESE BOYS CAN SEW

At a Salvation Army settlement house in Chicago there is a boys' sewing class. These boys have completed a course in sewing and not only are able to keep their own clothes in condition, but two afternoons each week they meet at the settlement house to fix up the garments of the less fortunate and less skilled people of the neighborhood.

CHINESE "NEGRO" MINSTRELS

Orphan boys of the Chung Mei Home in Berkeley, Calif., recently put on a minstrel show as a benefit for a better home for Chinese orphans. They had a large audience and won many laughs and many dollars.

Photos by Pacific & Atlantic

A TROOP PIE

San Francisco boy scouts are fond of apple pie, it would seem. This huge pie was cut in enough pieces for every boy in the troop to have a slice.

CHOOSE OREGON COUNTY FOR CHILD HEALTH DEMONSTRATION

Marion County, Oregon, of which Salem is the county seat, has been selected as the field of the new western demonstration, the fourth in the Commonwealth Fund child health demonstration program.

The selection was made by the child health demonstration committee, only after careful weighing of applications from more than thirty cities and counties in the eleven Pacific Coast and Rocky Mountain states which made application to the committee. Study of these applications and of the whole western health situation began in March, the committee considering not only the degree of need of child health work in the different local communities, but also the conditions and resources of each applicant community as a demonstration and educational center which should influence a wider territory.

The selection of Marion County assures the interest and cooperation of the state and county health and education leaders. Its population, estimated at 55,000 in 1924, is 90 per cent. American born. It is essentially rural, Salem, the state capital, having a population of 25,000. The county's varied crops—berries, nuts, hops, flax—and its developing dairying and canning interests indicate a greater variety and stability of resources than in a one crop or one industry community.

These industries present also perplexing child health problems incident to a chronic migratory labor population, and common to a large area of the West. This group is variously estimated, in Marion County, at from three to ten thousand. An attempt will be made to work out a practical plan for their health and educational needs.

Earlier demonstrations in the Commonwealth Fund child health program are now under way in Fargo, N. D.; Athens, Ga., and Rutherford County, Tenn. Organization of the work in Marion County will begin early in 1925.

LONDONER INHALES 250 MILES OF DIRT ON FOGGY DAY

Five hundred billion particles of dirt are inhaled by the Londoner on a day of heavy smoke fog, says *Science,* in quoting a report of the British meteorological bureau.

Recent experiments of the bureau indicate the enormous number of dust particles inhaled. If they were placed end to end a day's accumulation would form a line 250 miles long, it is said.

These particles, of course, are very minute; it requires 10,000 of them per cubic centimeter to make a milligram of dirt in a cubic meter. The dust particles are counted by a device known as the jet dust counter. By this device, 50 c.c. of air is pushed rapidly through a slit and the dust deposited on a cover glass of small cross section to be examined microscopically.

The results of the London experiments form a part of the report of the advisory committee on atmospheric pollution named in 1922 as a result of agitation by the Coal Smoke Abatement Society.

TESTS SHOW RED TO BE BEST DANGER SIGNAL

Red will continue to spell DANGER following some tests recently made by the National Bureau of Standards. Tests for the visibility of traffic signals showed red to be the most easily distinguished color at a distance.

Green came second on the list of lights easy to identify, while blue ranked third. Lemon yellow was found to give better results than ordinary yellow lights, for the latter were often confused with orange or red.

The tests, which are described in a recent issue of *Science,* were made in the daylight, that being the time when identification is most difficult.

Several thousand tests were made with different observers. The average showed that a red light of 75 candle power could be identified at a distance of 600 feet, while a green light had to be 250 candle power, a yellow 750 and a blue light 1,000. The observations were made at distances of 600, 900 and 1,250 feet. At 1,250 feet the candle power required was 1,500, 2,500, 3,000 and 7,500, respectively.

These tests, for the standardization of traffic lights, are made with the cooperation of the American engineering standards committee, the National Safety Council, and the American Association of State Highway Officials.

MOVIE WARNS MOTORISTS OF CARELESS DRIVING PERILS

Two cars plunge over a 600 foot cliff on the Half Moon Bay road. Another makes an 800 foot slide from the summit of Twin Peaks.

These are a few of the thrillers in a film being shown throughout northern and central California by the public safety department of the State Automobile Association.

The locale of the picture is familiar to every San Francisco motorist. The hazards that are taken on mountain roads and in the very heart of the city traffic are brought out in the film, which is entitled "Carelessness, the National Enemy."

By a trick of chance, every incident in the photoplay might have happened to any motorist who sees the picture. Titles and pictures both are said to furnish a telling lecture on the right and wrong way to operate automobiles. Every foot of film is a lesson, it is declared, and every driver will handle his wheel more carefully after seeing the picture.

The movie was made to impress safety lessons on California motorists and to cut down the list of deaths due to automobile accidents. Traffic tragedies brought about 1,364 deaths in California in a single year.

PIGS NEED SUNSHINE

Pigs, as well as babies, need plenty of sunlight. Three University of Wisconsin professors recently conducted some experiments which prove that sunshine prevents the rickets, or rheumatism, common among hogs in the northern states.

Some of the pigs were placed in dark pens and the others in light. The dark pens were not really dark but were protected from the direct rays of the sun. They had outdoor runways but the runways were protected by a composition roofing from the sun's rays.

At the end of six months, the pigs that had occupied the light pen were heavier, healthier and under microscopic examination were found to have bones more regular in structure. The other group of pigs stiffened until they could hardly walk and were much thinner and less healthy generally.

Yellow corn, too, has an influence on the growth of hogs, since it is rich in the vitamin, the lack of which causes rickets. White corn contains less of the antirachitic vitamin.

It is especially necessary, the Wisconsin professors declare, that pigs fed on white corn get plenty of light.

TO STUDY PYORRHEA

The University of California has received a fund of $105,000 to be spent in an investigation of pyorrhea and its relation to other maladies. Research workers from various fields of science will cooperate in the investigation. The Carnegie Corporation contributed $85,000 to the fund.

QUESTIONS AND ANSWERS

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. If the question is of general interest, the answer will be published; otherwise it will be sent by mail. Questions are submitted to recognized authorities in the several branches of medicine and answers framed by them. The names of correspondents will not be published. Diagnoses in individual cases will not be attempted nor treatment prescribed. Answers to questions relating to beauty will be found in the "Healthful Beauty" department of this magazine.

Constructive Finger Surgery

To the Editor:—I have a catarrhal deafness. Inflation treatments which I have taken for several years seem not to have helped at all. The enclosed booklet, descriptive of Dr. Muncie's "Constructive Finger Surgery," has recently come into my hands. To the layman it sounds rather plausible. I should be very grateful for your opinion and advice on the matter. D. M., New York.

Answer.—The so-called Dr. Muncie is an osteopath who so far as we know has never had any training in aural diseases in any recognized clinic or institution devoted to the care and study of patients with diseases of the eye, ear, nose or throat. His claims to open up the eustachian tube with his finger are too ridiculous even to discuss. He is considered unscientific and his treatment has no virtue.

Basal Metabolism Tests

To the Editor:—I am writing you in behalf of a friend of mine. About a year ago this friend (a woman 31 years old) was examined by a physician and advised to undergo a basal metabolism test. She has not done anything about this, however. I know it is bothering her and, although she would like to ask her physician what this basal metabolism means and what benefit would be derived from it, for some reason she hesitates. Therefore, will you please be good enough to write me explaining what the term basal metabolism means and what benefit, in your opinion, a patient would derive from the test? M. F. A., Pennsylvania.

Answer.—By metabolism is meant the chemical processes in the building up and tearing down of body cells which are constantly going on in the living body. Food is digested and absorbed, and is conveyed by the blood and lymph stream to all parts of the body, there to be built up into living tissues. At the same time chemical substances making up these cells are being constantly broken down and the waste products are conveyed to the organs of the body that discharge them. The principal structures concerned in this excretion are the kidneys, bowels, skin and lungs. Through the lungs oxygen from the air is constantly being taken up by the blood. This is as essential to the living body as food. On the other hand, carbon dioxid and minute quantities of other materials are being constantly eliminated through the lungs.

The rapidity with which this building up and tearing down chemical process in the body is taking place can be measured fairly accurately either by the amount of oxygen absorbed from the air during a stated period or from the amount of carbon dioxid given off during that period. Several forms of apparatus have been devised for such metabolism tests, most of which measure the amount of oxygen absorbed in a given time. Some of them use pure oxygen instead of air.

The test has been found especially valuable in certain diseases in which these chemical changes which constitute metabolism are much increased, as is the case in exophthalmic goiter.

Whether or not such a test is desirable in the case of a particular individual is something that can only be determined by the physician in charge, who is thoroughly familiar with the conditions present.

Teeth Grinding

To the Editor:—Could you please tell me what makes a person grit or grind his teeth while asleep? D. M., Oregon.

Answer.—Teeth grinding occurs more commonly in children than in adults, but rarely in normal individuals. It occurs often in disease and here again is found more frequently in children. It is not uncommon in chronic intestinal indigestion in young infants associated with disturbed and unnatural sleep, with tossing and frequent waking and crying out. It has often been observed in children suffering with round worms.

In the nervous child it is often associated with other sleep habits such as "scratching the abdomen," "worrying at one's self," "turning about," "kicking about," and "head burying."

It is also seen in children with organic disease of the central nervous system, such as idiocy and feeblemindedness, hydrocephalus, etc. In both, it is a symptom of inflammation or irritation of the membranes of the brain as the result of high fever and intoxication. In brain tumor, abscess, etc., in some cases of coma and delirium, teeth grinding is not uncommon. It is frequent in some of the insanities, such as dementia praecox and paralytic dementia. Finally, it may be due to a chronic spasm of the muscles of the cheek.

The exact mode of production of teeth grinding is not well understood, but it may occur as the result of one of at least three distinct conditions: a habit, a tic (muscle spasm), or as a manifestation of some irritative lesion of the brain.

Poisoning

To the Editor:—In the December HYGEIA, page 768, title "Heredity and Disease," you state in the first part of said article that from the moment of conception the mother is only a nurse to supply suitable food and surroundings and that there her function stops, and she is not responsible for any after effects. Later in the article you speak of inheritance of lead and other poisons in the offspring. Now, please explain in plain language how does the fetus become poisoned from lead and other poisons if same is not transmitted by the mother through the placenta. I have asked a great many doctors since reading the article and to my surprise after showing them HYGEIA, which my doctor gave me, not a single one could answer my question. A. S. S., Maryland.

Answer.—Some confusion arises from the analogy between legal and biological heredity. In the former, one inherits money or other property after the death of the person from whom he inherits. In the latter he inherits certain physical and mental characteristics during the life of his parent through a long line of ancestors in diminishing ratio, the farther we go back into his ancestry.

As soon as there occurs in the mother's body a union of the cell from her ovary, known as the ovum, with the cell from the father's body, known as the sperm cell, the new individual begins to live its own life. It is true that, in the human species, the new being lives for about nine months within the body of the mother, but it is another individual during that nine months just as much as during the three score years and ten of its life outside.

The embryo or fetus gets its board and lodging through its mother from the very beginning. It gets most of its board for several months after its birth through her. The father, who is paying the grocery bills, helps in this way to supply the fetus with food through the mother's digestive apparatus, womb and placenta.

Heredity, biologically speaking, is all bound up in the germ plasm, which is represented in the bodies of mother and father by the egg and the sperm respectively. The complex heredity from all the ancestors lies in these two germs which unite in the person of the new being at the time when conception occurs. Only generalities are inherited biologically.

One does not inherit specific diseases and poisonings, such as tuberculosis, syphilis, alcoholism, gout or insanity. One inherits, through the germ plasm of his ancestors for untold generations back, tendencies towards weakness of character, bad temper, good nature, much or little dark pigment in skin or hair, mental instability, strongmindedness or genius. Alcoholism is one manifestation of weakmindedness and mental instability. The offspring of a drunkard, for example, may inherit such instability through his parent from a long line of unstable forebears and may become a drunkard because of environment or example.

There is a distinction between inherited ancestral defects and congenital disease. One may be born with any one of a number of diseases, but such diseases would be acquired from the mother by passage through the placenta. The blood of the fetus and that of the mother, unless perhaps in some very rare instances, never mix. The passage of food and air from mother to fetus is through the membraneous walls of the blood passages in the maternal and fetal portions of the placenta. Some microbes and some poisons pass through this membranous filter and some do not.

The tubercle bacillus rarely, the syphilitic germ, some of the metallic and some of the organic poisons more frequently, pass through to the circulation of the fetus. This, however, is much the same as if these passed into the body of the fetus by way of inoculation after birth, or by way of the mother's milk. These are congenital infections or poisonings and cannot be called inherited in the biologic sense.

In the matter of lead poisoning, Dr. Fantus mentions the possibility of transmission of lead poisoning through the father. It is difficult to conceive how enough lead salts could pass into the ovum in the minute body of the sperm cell to cause lead to be present in the body of the fetus in perceptible amounts. On the other hand, a father poisoned by lead might have his body cells and his sperm cells rendered deficient in vitality so as to weaken the vitality of the embryo. Usually, in such cases, the embryo would be expected to die very early in the pregnancy.

Alpine Sun Lamp for Tuberculosis

To the Editor:—Do you have any information on the treating of tuberculosis of the lungs by Alpine sun lamp, methods of taking the treatment, and cases suitable for treating? G. S., West Virginia.

Answer.—Thus far, no demonstrable benefit has been obtained from quartz lamp treatment in lung tuberculosis. The pain of laryngeal tuberculosis has been remarkably alleviated by the direct application of the light to the laryngeal ulcerations. This is best done with metal head and throat mirrors, or with the quartz lens supplied by the manufacturers of the various lamps. The pain of intestinal tuberculosis has been relieved by the use of the light, while much is claimed for it in cases of peritoneal tuberculosis. There is no doubt but that "artificial sunlight" has a place in the armamentarium against some forms of tuberculosis.

Even as sunlight will burn, so will quartz light; therefore, it should be used carefully to begin with. Five or ten minutes' exposure should be enough for the initial treatment. As the skin, or other tissue exposed, becomes accustomed to the light, the time may be lengthened.

The ease with which the treatment may be given as well as the broad claims of some manufacturers of these lamps offers a field for the shallow and unscrupulous.

Stammering

To the Editor:—In a recent number of HYGEIA I noticed an article on speech defects. I have a brother who is afflicted with stammering and we are anxious to help him all we can. Would you kindly give us a list of reliable places to send him for treatment? We would prefer a place in the middle west, if you can recommend one there. We have had letters from one institute, but as we have not had means of knowing the reliability of it we have not taken him there. Can you recommend it?

F. J. C., Iowa.

Answer.—In all civilized countries, the stammerer has been, and is, the victim of unscrupulous commercialism. Therefore, the public should be extremely careful of private "schools" or "institutions" for the stammerers:

(1) that advertise an exclusive "method" or exclusive "cure" for stammering;

(2) that advertise in a highly boastful spirit;

(3) that demand the entire fee, or a large part of it, *in advance;*

(4) that "guarantee" to "cure." The treatment methods of such commercialized institutions, although varying in merit, are apt to be highly superficial and for most cases of stammering, inadequate. Testimonials are capable of being juggled and misapplied.

Schools, or institutions of any kind, are by no means necessary for the successful treatment of this disorder. Undoubtedly, some of the best treatment for stammering is carried out in individual offices by physicians and non-physicians who have, by careful preparation, made themselves expert in this field. But, of course, here also, one must be careful in his choosing. He should attempt to investigate, not the commercial, but rather the ethical, professional, and scientific standing of such an expert.

Your family physician is the one to recommend a physician or teacher who is expert in the matter of training to overcome speech defects.

Hydrocele

To the Editor:—Can you give me some information concerning hydrosy, or hydrocele, in infants? What is the cause? Does it occur at birth or after? Is it the same as a rupture? What is its development? Is a child likely to outgrow it?

R. H., New Jersey.

Answer.—Hydrocele is an accumulation of fluid in the scrotum or sack surrounding the testicles, or in the space surrounding the spermatic cord as it passes up from the testicle into the abdominal cavity.

Little is known about the cause. A form known as congenital hydrocele is that which is present at birth

and is due to the fact that the opening in the abdominal wall, through which the cord passes, fails to close. It is through this same opening that the intestines may come down, forming a rupture or hernia. It is not the same as a rupture, but occurs in the same place and sometimes accompanies a rupture.

If the upper opening of this canal remains patulous, then the fluid contents of this hydrocele flow into the abdominal cavity when the child lies down, and the tumor disappears, to return again when it is in the erect position. Or, the opening may be so small that the contents flow back very slowly, unless the swelling is squeezed. Or, the internal opening may be entirely closed, and the canal below closed as well. In such case there is a small swelling, varying in size from that of a navy bean to smaller or greater size. In this form, hydrocele of the cord very closely resembles a rupture in appearance.

The condition is sometimes recovered from without treatment. A suitable truss, making pressure on the opening, sometimes cures it in an infant, as it will often cure a rupture. In other cases, it requires treatment by a physician.

Hair Remover

To the Editor:—Someone who seemed to be an authority told me that a mixture of calomin (½ ounce), zinc oxid (½ ounce) and distilled water (6 ounces) would in two months' time remove hair and prevent its growing again. It is to be applied once a day by moistening the fingers with it and then patting it on the place desired. It is said that the gas which the solution throws off is gradually absorbed, and when it reaches the roots of the hair completely destroys them. Is this true? If so, does the solution harm the skin in any way at all, or is it perfectly safe to use it? Could peroxid and ammonia be used in the same way with the same effect? M. J., Kansas.

Answer.—A suspension of calomin and zinc oxid in distilled water is not injurious to the skin neither will it destroy superfluous hair: in fact there is no preparation that can be used locally to destroy hair, without injuring the skin more or less permanently. Preparations sold for removing superfluous hair remove it only temporarily and frequently cause an inflammation of the skin.

The x-ray will remove hair permanently, but is apt to injure the skin and is not recommended for this purpose. The removal of superfluous hair by the electric needle is a safe and certain method when done by a person properly trained for that work.

Peroxid and ammonia have no effect on the vitality of hair.

Blisters on Feet

To the Editor:—1. My mother, 56 years old and very active, suffers a great deal because of large blisters on the bottom of her feet. After a while, these blisters open and consequently the feet itch, ache and are very sore. Mother for some time has rubbed them daily with alcohol, has applied olive oil and used many bath remedies but cannot obtain relief. She has always worn a prescribed shoe with built-in arch supports. 2. A young lady has the habit of sleeping with her mouth open and recently has been applying adhesive tape. It seems that since doing this the nostrils are very sore and sensitive. T. M. K., Maryland.

Answer.—1. Judging from the brief description given, the patient apparently has a ring-worm infection of the feet. This condition is due to a fungus that invades the skin and requires special treatment. A physician familiar with such conditions should be consulted.

2. The adhesive tape has probably caused an irritation; if it is applied a number of times in the same area, the skin is apt to become inflamed. If there is soreness where the adhesive tape has not been applied, it is due to other causes and a physician should be consulted.

Locomotor Ataxia

To the Editor:—Is there any treatment for locomotor ataxia, and, if so, what? Can the disease continue to develop after all infection has been removed? E. C. D., Oklahoma.

Answer.—Locomotor ataxia is due to invasion of the nervous system by the germs that cause syphilis, although their exact location in this disease has not yet been determined.

Treatment may be considered under two heads. First, are all remedies given with the object of destroying the germs. There are a number of such remedies and the particular one selected must be the one most suitable for the individual case. This applies not only to the particular drug, but also to the manner in which it should be administered. As our knowledge of the use of such remedies is growing, success in arresting the disease is steadily increasing. The treatment needs to be controlled by its effects, as shown by laboratory studies, at intervals and by improvement in the patient's symptoms. Treatment must always be continued over long periods.

Second, there are remedies applied for the relief of particular symptoms: exercise for the ataxia, the difficulty in controlling the muscles; dieting and general hygiene for the general bodily health, and drugs for the relief of pain.

If the infection with the germs has been successfully eradicated there will be no progress in the disease; indeed, improvement in many of the symptoms will follow.

It must be remembered, however, that no treatment can put back nerve cells that have been destroyed by the earlier activities of the disease. Such damage will leave scars and improvement can follow only when the work these cells should do can be taken over by other parts, as when a person is trained to walk steadily by using his eyes instead of the sense he should have from his muscles.

Falling Hair

To the Editor:—I am 26 years old, and the condition of my hair is rendering me wretched and disheartened. When I was 17 or 18 my hair was a lovely golden brown, never very thick but fluffy and pretty. It was never very wavy, so I kept on water-waving it with chamomile tea almost every night until I was about 21; then I was told how ruinous such treatment was. By that time my hair had darkened somewhat and the craze for bobbed hair having just begun, I cut mine. I was immediately regretful and without having it cut again I waited for it to grow, which it did very slowly. It has not grown beyond shoulder length (although before it was cut it was half-way down my back). The ends are always split, though now I cut them often. Two years ago I started using a spoonful of peroxid in the water about once a week when I washed it. My hair now is dark brown, stringy, thin and lifeless looking. Add to that, my worry about it and the fact that the man I am to marry is a great admirer of beautiful hair, and you have my state of mind. For six months I have been taking bimonthly treatments of the violet ray, the glove-like apparatus that does not touch the hair but bakes the scalp. The treatment is about an hour each time. My hair is falling out worse than ever, despite massage and the frequent use of salve. Can you advise me what to do? V. T. A., New York.

Answer.—It is generally conceded that a daily wetting of the hair is apt to prove injurious to its texture, but bobbing should not have interfered with

its regrowth, although it can scarcely be expected ever to reach its original length. It is not probable that the violet ray treatments which you describe would be of service in restoring the hair. If there is any disease of the scalp, such as dandruff, treatment of this condition would be advisable.

Beyond this, it is suggested that you keep the hair well oiled by applying a solution of castor oil (Oleum ricini) in alcohol, about one part of the former to three or four of the latter. In addition the hair should be brushed for a considerable time every evening. This oiling and brushing will tend to restore its luster and should be of service in stopping the splitting of the hair.

If these means fail you should consult a good physician, preferably one who has had a large experience with diseases of the skin and hair.

Defective Speech

To the Editor:—I have a girl 14 years old that can talk, but not so she is understood by everybody. I would like to know if you could give me any advice as to where to take her for treatment. She has been examined by several physicians, but they can do nothing for her. She had an attack of infantile paralysis when a year old, which left her with this affliction, otherwise she is a big, strong girl, never sick, but a little backward in school on account of her speech.

P. H., Connecticut.

Answer.—In one respect your letter is not strictly accurate. An attack of infantile paralysis at "one year" could hardly "leave" a child with any kind of talking, since speech at that age could hardly have begun. Speech is a complex function, gradually acquired through years of effort. The failure of your child to develop speech with complete normality might be due to one of the following causes:

(1) Injury to the child's brain resulting from infantile paralysis;

(2) Partial paralysis of certain muscles of articulation resulting also from brain injury; or,

(3) Some other cause either not at all, or only indirectly, related to infantile paralysis.

Whether improvement, or recovery, is possible depends on the underlying causes and their seriousness. A physician, expert in disorders of speech, should be consulted; or, if this is impossible, a thoroughly trained speech expert, who is not a physician. The number in the entire United States fully competent to make these decisions is not large. Your physician can ascertain the names and addresses of such expert physicians and teachers who would be accessible to you.

Nasal Polyps

To the Editor:—Three years ago I began having trouble breathing. I consulted many doctors but they treated me for bronchial asthma, and that did not help me. One doctor found I had growths in my nose. I was operated on and in a few months polyps grew again and I had them removed, but they kept coming back about every four or six months. Is there anything I can do to keep the polyps from coming back? I use a wash of one quart of water to one teaspoonful of salt, then an oil spray of thymol and menthol. I use the wash once and the oil three or four times a day. I just had the polyp removed a week ago, and would be glad to be advised as to the course of treatment to be followed. A. S., Nebraska.

Answer.—Nasal polyps are apt to recur even after they have been carefully removed. They generally have as their underlying cause an inflammation of the accessory nasal sinuses. For that reason these cavities might be examined and carefully x-rayed.

If the pictures show any disease in these sinuses, this must be attended to before removal of the polyps can afford relief that will in any way be permanent.

Bad Breath

To the Editor:—I am a subscriber to HYGEIA and I would like to ask you if there is any chemical solution which will detect halitosis, or which will increase odors so that one could themselves detect bad breath. H. C. W., Massachusetts.

Answer.—The substances causing the breath of individuals to be termed bad or disagreeable vary in composition—if, indeed, all of them are known. It is quite improbable, therefore, that any single reagent can be prepared which would detect these substances, particularly in the relatively small amounts in which they occur. Probably the olfactory sense of a person not afflicted would be vastly more sensitive than a possible chemical reagent.

Vitiligo

To the Editor:—When I was about 12 years of age my parents noticed that I had a goiter. I was given electric treatments for a time, and the outward appearance disappeared and one would never know I had had a goiter except that I have difficulty in swallowing certain foods, particularly potatoes. I have always been very nervous. I now am 33 years of age and just recently a doctor told me that it is goiter which is causing the very noticeable white spots that are appearing on me. They commenced to appear on my hands several years ago. I did not think much of it but during the past year my arms have become covered with them, also the upper part of my limbs and just recently it has spread to my breasts and neck. I am very anxious to know what to do before it reaches my face. I have been able to obtain iodized salt, but will that be sufficient to remove these horrid spots? I had infantile paralysis in 1910 affecting my right side. Would that have anything to do with this? Please let me know what to do or take, and if the spots are really a symptom of goiter. H. M. S., Iowa.

Answer.—The patient in all probability has vitiligo. Her description of its beginning and subsequent development is classical for this disorder. The cause of vitiligo is unknown.

There is no treatment that is of any service. The disorder spreads to a certain limit and then stops of its own accord. While it is possible that the goiter and infantile paralysis in this patient may have had some connection with the production of the disease in her case, it is quite likely that they did not. We regret that we cannot suggest any treatment and that the prognosis is so unfavorable.

Strabismus

To the Editor:—Our little girl, aged three, has had strabismus since birth. The "cross" of the eyes seems much more pronounced than at first. Is an operation ever recommended for such a case, and if so, at what age would it be most advisable?

G. L. T., New Jersey.

Answer.—Strabismus in children is usually due to imperfect development of the eyes. Frequently, vision is poor in one eye. An operation is rarely necessary if modern methods of treatment can be instituted at three years of age.

CURRENT HEALTH ITEMS

INFANT WELFARE IN SOVIET RUSSIA

The soviet republic of Russia is seeking to abate the frightful infant mortality among the teeming millions of that nation by methods very similar to those in use in our own country. The health education of the

public is sought by lectures, health talks, health exhibits and other means.

The poster reproduced here accompanied an article in the December *Survey* by Miss Lillian D. Wald, founder of the Public Health Nursing Organization, who recently visited Russia on the invitation of the Narkomzdrav (department of health) of Russia. The banners say: We demand defense from flies. We demand dry and clean diapers. We demand fresh air and light. We demand mothers' breasts. We demand healthy parents.

"Russia faces an unparalleled problem, but remembering her wars, her famines, her poverty and the long ages of illiteracy of her people, the achievement of the last two or three years in the field of public health and preventive measures is extraordinary," says Miss Wald.

BASKETBALL FOR GIRLS

Instead of being a weak, emasculated form of the men's sport, women's basketball is a different game, just as indoor baseball is different from league baseball, says Dr. J. Anna Norris, director of physical education for women at the University of Minnesota, in an article on the "Dangers in Basketball" in *Child Health Magazine* for December. The women's rules should be universally adopted, if basketball is to be recognized as a desirable game for women, Dr. Norris declares.

Dr. Norris believes that girls should not indulge in interscholastic games or tournaments. The physical effort of games under such intense conditions may be disastrous. The evident emphasis placed by the audience on the importance of winning stimulates the girl to unusual effort, perhaps beyond the bounds that the condition of her heart can stand, perhaps beyond the limit where she can maintain emotional stability. The recreational value of the game has disappeared.

A woman should always coach a woman's team, Dr. Norris believes. A woman coach knows and has played by the women's rules, and it is difficult for a man to enter heartily into the spirit of a game different in so many essential respects from his own.

A woman coach, too, is able to advise the girl as to whether her condition is such that it is proper for her to play.

Instructors or coaches supervising practice and play should keep run of the physical reaction of the girls during the game and afterward, and should confine the personnel of the group to those who show no undue or postponed fatigue or signs of heart embarrassment, such as pallor, breathlessness or weakness.

IMAGINATION IN PLAYGROUND DESIGN

The American City for December publishes a paper by Horace W. Peaslee, park architect of Washington, D. C., that should interest every community with a playground, as well as communities in which playgrounds are yet to be constructed. It is a plea for more imagination in playground design.

The typical playground is not attractive to look upon or very interesting to the children. It is, as Mr. Peaslee describes it, a large area void of planting and sparse of turf, of pipe-framed swings and pipe-framed bars and divers other mechanical contraptions, and of much organized and systematized effort.

The wading pool is usually as stiff and formal as a bathtub and therefore fundamentally obnoxious to the child. It would not suffer by designation as a Junior Navy Yard, for instance. A crude boulder dam, or a pair of low barriers, about like fords, would not injure the appearance—and think of the possibilities for navigation and for manufacturing plants.

The parks provide little in the way of statuary of interest to children. How about a statue of Santa Claus or Robin Hood or Little Lord Fauntleroy!

A real children's park, such as Mr. Peaslee would like to plan, would start off with plenty of established trees, with the shrubbery thus kept up in the air out of the way. There would be plenty of elbow room, plenty of good plain dirt and plenty of smooth pavement, each for its special use. There would be a mystic maze and a tunnel and a tower, also an unexpected slide and a secret fountain, in the best Italian manner, to show the new boys.

What was once known as the playground would be called the circus. It would be enclosed by a low wall with a long seat on a platform, like a hippodrome. The apparatus would be spectacular in form and color. There would be some animal with an infinite capacity for peanuts—not a camel.

KEEPING BABY FREE FROM COLDS

When we have learned that fresh air and proper feeding are as essential in winter as they are in summer, the present high baby death rate of the winter months will disappear as surely as the former high baby death rate in summer has.

This is the statement of Dr. S. Josephine Baker, who writes for the December *Ladies' Home Journal* an article on "Colds, Coughs and Babies."

The baby should be kept out of doors for the greater part of each day, except in the most stormy or extremely cold weather, Dr. Baker advises. His sleeping room and the room he is in during the daytime must have an abundance of fresh air at all times, with the temperature never above 68 in the daytime and from 50 to 55 at night.